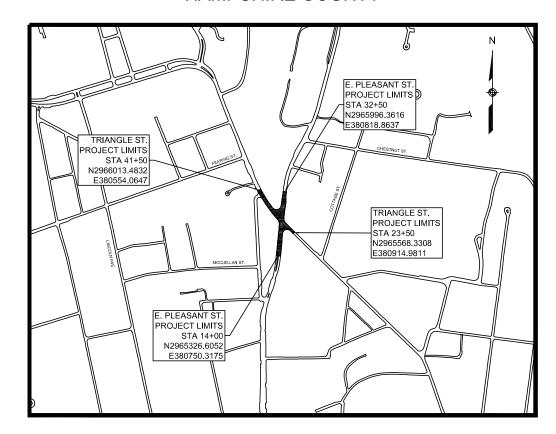
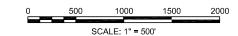
#### PLAN AND PROFILE OF

# EAST PLEASANT STREET AT TRIANGLE STREET MODERN ROUNDABOUT

IN THE CITY/TOWN OF

# AMHERST HAMPSHIRE COUNTY





LENGTH OF PROJECT = 1,280.00 FEET = 0.24 MILES

25% SUBMISSION - AUGUST 2015

### DESIGN DESIGNATION (E. PLEASANT ST.)

DESIGN SPEED	35 MPH
ADT (2014)	4,290
ADT (2034)	4,400
K	10%
D	50%
T (PEAK HOUR)	3.00%
T (AVERAGE DAY)	3.00%
DHV	440
DDHV	440
FUNCTIONAL CLASSIFICATION	MINOR ARTERIA

#### DESIGN DESIGNATION (TRIANGLE ST.)

DESIGN SPEED	35 MPH
ADT (2014)	4,180
ADT (2034)	4,250
К	10%
D	50%
T (PEAK HOUR)	3.00%
T (AVERAGE DAY)	3.00%
DHV	425
DDHV	425
FUNCTIONAL CLASSIFICATION	MINOR ARTER

HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012, THE 2012 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS, (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR

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BT-1 TO BT-5 CONSTRUCTION BASELINE TIES

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TL-1 TRAFFIC LEGEND, ABBREVIATIONS & NOTES

PM-1 TO PM-5 TRAFFIC SIGN & PAVEMENT MARKINGS SS-1 TRAFFIC SIGN SUMMARY SHEET

**KEY PLAN & BORING LOCATIONS** 

DRAWING NO.

TITLE

AB-1 KP-1

MASSACHUSETTS AMENDMENTS

SHEET NO.

2

4-5

6-8

9-10

11-15

16-20

21-23

24-28

29

30-34

35

36-38

39-43

THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

DATE DESCRIPTION REV#

#### TRAFFIC AND PAVEMENT MARKING SYMBOLS

REFER TO TRAFFIC LEGEND, ABBREVIATIONS, AND NOTES SHEET FOR TRAFFIC DETAILS.

1. BASE MAPPING PROVIDED BY SURVEYING AND MAPPING CONSULTANTS (SMC) DECEMBER 20, 2013. 325 WOOD ROAD, SUITE 109 BRAINTREE, MA 02184, PHONE (781)380-7766 FAX:(781)380-7757

2. ALL BASELINE TIES FOR CORNERS AND RADII OF CURB OR EDGING ARE TO THE P.C.'S OR P.T.'S, UNLESS OTHERWISE NOTED.

3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83).

4. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). 5. ALL PROPOSED GRANITE CURB SHALL BE TYPE VB, UNLESS OTHERWISE NOTED.

6. THE CONTRACTOR SHALL VERIFY ALL OUTLET GRADES OF DRAINAGE STRUCTURES PRIOR TO CONSTRUCTING THE DRAINAGE IMPROVEMENTS.

7. ALL MATERIAL TO BE R&S SHALL BE CAREFULLY REMOVED, DELIVERED, AND NEATLY STACKED AT THE TOWN OF AMHERST DEPARTMENT OF PUBLIC WORKS INFRASTRUCTURE YARD.

8. ALL AREAS OUTSIDE OF THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR

ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S OWN EXPENSE.

9. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ALL PRIVATE UTILITIES.

10. PRIOR TO THE INSTALLATION OF PROPOSED UTILITIES, THE CONTRACTOR SHALL EXCAVATE TEST PITS AT LOCATIONS OF UTILITY.

CROSSINGS TO VERIFY DEPTHS OF EXISTING PIPES, CONDUITS OR OTHER FACILITIES, AS REQUIRED BY ENGINEER.

11. THE CONTRACTOR SHALL SAWCUT TO THE FULL PAVEMENT DEPTH AT LOCATIONS WHERE NEW FULL DEPTH PAVEMENT OR NEW SIDEWALK MEETS EXIST. PAVEMENT OR SIDEWALK, AT THE LOCATIONS SHOWN ON THE PLANS AND AS REQUIRED BY THE ENGINEER. 12. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE

ENGINEER FOR RESOLUTION OF THE CONFLICT. 13. ALL EXISTING MUNICIPAL UTILITY CASTINGS, WHICH ARE TO REMAIN, IN AREAS TO BE RE-PAVED SHALL BE ADJUSTED TO LINE AND GRADE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.

14. EXISTING GRANITE CURB DEEMED SUITABLE FOR RE-USE BY THE ENGINEER SHALL NOT BE RANDOMLY MIXED WITH NEW CURB, BUT SHALL BE RESET AS TO GIVE A UNIFORM APPEARANCE. EXISTING GRANITE CURB RADII DEEMED SUITABLE FOR RE-USE BUT NOT

ELIGIBLE FOR RESETTING SHALL BE REMOVED AND STACKED. ALL OTHER EXISTING CURBING SHALL BE DISPOSED 15. ALL PROPOSED WHEELCHAIR RAMPS ARE TO BE CEMENT CONCRETE AND SHALL CONFORM TO LATEST AAB AND ADA WHEELCHAIR RAMP STANDARDS.

I6. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL"DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING

17. UNLESS OTHERWISE REQUIRED BY THE ENGINEER, EXISTING TREES WITHIN THE LIMIT OF WORK (RETAIN AND PROTECT) SHALL BE PROTECTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

18.ALL PROPOSED DRIVES SHOWN AT BACK OF PROPOSED CEMENT CONCRETE DRIVEWAY APRONS SHALL BE HOT MIX ASPHALT (H.M.A.) UNLESS OTHERWISE NOTED OR AS REQUIRED BY THE ENGINEER.

19. A MINIMUM 39" (EXCLUDING CURB) PATH OF TRAVEL SHALL BE MAINTAINED FROM ALL OBSTRUCTIONS (EXISTING, RELOCATED, AND

PROPOSED) ON SIDEWALK INCLUDING, BUT NOT LIMITED TO, UTILITY POLES, HYDRANTS, SIGNS, SIGNALS, TREES AND MAILBOXES. IF THERE IS A CONFLICT, THE INFORMATION SHALL BE FURNISHED TO THE ENGINEER FOR RESOLUTION PRIOR TO SIDEWALK RECONSTRUCTION.

20. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR REQUIRED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONTRACTIBILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B

21. DRAINAGE, SEWER AND WATER IMPROVEMENTS SHOWN AS DASHED ON PLANS AND LABELED AS "WORK BY OTHERS" ARE TO BE COMPLETED UNDER SEPARATE CONTRACT AND ARE ANTICIPATED TO BE COMPLETED PRIOR TO CONTRACT START. IMPROVEMENTS SHOWN UNDER SEPARATE CONTRACT ARE SUBJECT TO CHANGE AND FIELD VERIFICATION WILL BE REQUIRED PRIOR TO CONTRACT

22. FINAL LOCATION OF ALL PLANTINGS WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS, DETAILS AND SPECIAL PROVISIONS. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME AND SIZE

#### **ABBREVIATIONS**

ABANDON

ALTERATION

BITUMINOUS

BOUND

BASELINE

BUILDING

BENCHMARK

BY OTHERS

**BOTTOM OF CURB** 

BOTTOM OF SLOPE

BACK OF WALK

CLEAR AND GRUB

CEMENT CONCRETE

CATCH BASIN WITH CURB INLET

CEMENT CONCRETE MASONRY

CATCH BASIN

CEMENT

**CURB INLET** 

CENTERLINE

CONDUIT

COUNTY

CAST IRON PIPE

CHAIN LINK FENCE

CITY LAYOUT LINE

CORRUGATED METAL PIPE

CORRUGATED STEEL PIPE

APPROXIMATE

ASPHALT CONCRETE

ASPHALT COATED CORRUGATED METAL PIPE

ADJUST

AADT

ABAN

AD.I

ALT

BD

BLDG

CBC

CCM

CEM

CI

CIP

CLF

CL

CLO

CMF

CSP

CO

CONC

CONT

CONST

CR GR

DEMO

DHV

CONST STD

CNDT

APPROX

ACCM PIPE

ANNUAL AVERAGE DAILY TRAFFIC

### ABBREVIATIONS (cont.)

SHEET 2 OF 46

GENERAI JUNCTION JCT LOC LENGTH OF CURVE LEACH BASIN LB LIGHT POLE CHUSETTS HIGHWAY BOUND

CONTRACT F CURVATURE F COMPOUND CURVATURE GRADE LINE

F INTERSECTION ENT MICROMILLING AND OVERLAY N TANGENT

F REVERSE CURVATURE SED

BLE SOIL BORROW F TANGENCY F VERTICAL CURVATURE F VERTICAL INTERSECTION F VERTICAL TANGENCY

CONCRETE **WATER WAY** CONTINUOUS OF CURVATURE CONSTRUCTION MASSDOT CONSTRUCTION STANDARDS AND DISPOSE RCED CONCRETE PIPE CROWN GRADE DEMOLISH (DEMOLITION) DESIGN HOURLY VOLUME

DI DROP INLET DIA DIAMETER DIP DUCTILE IRON PIPE DW STEADY DON'T WALK - PORTLAND ORANGE DWY DRIVEWAY FLEC ELECTRIC

ELEV (or EL) ELEVATION FMB **EMBANKMENT** EDGE OF PAVEMENT EXIST (or EX) EXISTING EXC EXCAVATION F&C FRAME AND COVER F&G FRAME AND GRATE FDN **FOUNDATION** FULL DEPTH CONSTRUCTION

FLDSTN FIELDSTONE GARAGE GD GROUND GAS GATE **GUTTER INLET** GALVANIZED IRON PIPE GRANITE

GRAVEL GRD GUARD HDW HEADWALL НМА HOT MIX ASPHAL HOR HORIZONTAL HYD HYDRANT

LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIG
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PM&O	PAVEMENT MICROMILL
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CU
PROJ	PROJECT
PROP	PROPOSED
PROT	PROTECT
PSB	PLANTABLE SOIL BORF
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL C
PVI	POINT OF VERTICAL IN
PVT	POINT OF VERTICAL TA
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATUR
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET & PROT	RETAIN AND PROTECT
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION

SHLO STATE HIGHWAY LAYOUT LINE SW SIDEWALK

STOPPING SIGHT DISTANCE

SSD

ESIGNED BY: S. MURPHY A. DOMAZET SHEET CHK'D BY: S. MURPHY CROSS CHK'D BY: \_\_\_J. BALSKUS ROVED BY: \_\_\_ L. SHERMAN REMARKS AUGUST 2015 DATE DRWN CHKD

75 State Street, Suite 701

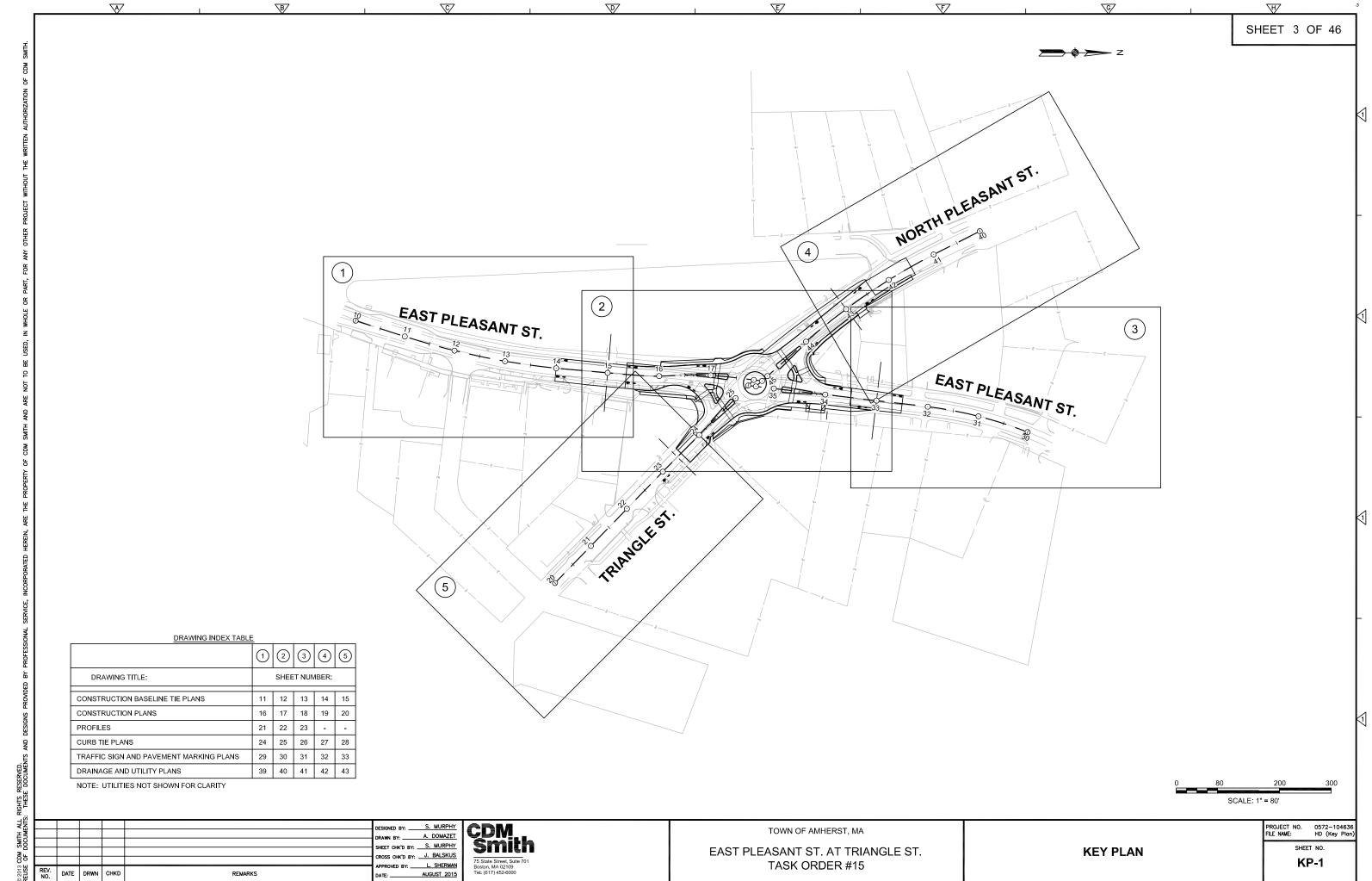
TOWN OF AMHERST, MA

EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

**LEGEND, NOTES & ABBREVIATIONS** 

PROJECT NO. FILE NAME: 0572-10463 HD (Legen

AB-1



5'-0" TYP 5'-0" TYP & VARIES 12'-0" TYP. & VARIES 12'-0" TYP. & VARIES & VARIES YP. & VARIES TRAVEL LANE TRAVEL LANE YP. & VARIES BICYCLE BICYCLE MATCH -EXIST. \_MATCH MATCH EXIST.\* MATCH EXIST.\* ---

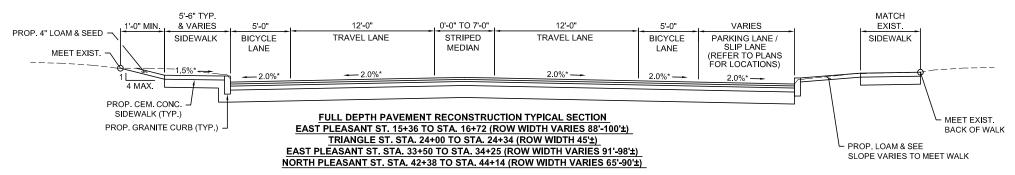
MICROMILLING AND PAVEMENT OVERLAY TYPICAL SECTION EAST PLEASANT ST. STA. 32+50 TO 33+50 (ROW WIDTH VARIES 85'-95'±) NORTH PLEASANT ST. STA. 41+50 TO STA. 42+38 (ROW WIDTH VARIES 65'-120'±)

\*TOLERANCE FOR CONSTRUCTION ± 0.5% \*\*SEE PAVEMENT MARKING PLANS FOR PAVEMENT WIDTHS AND TURN LANE LAYOUTS

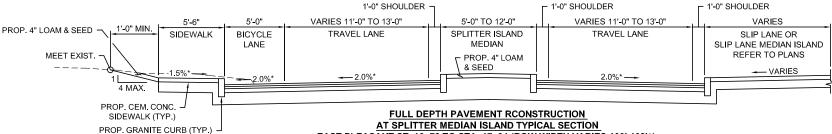
5'-0" TYP & VARIES 12'-0" TYP. & VARIES 12'-0" TYP. & VARIES & VARIES 8'-0" TYP. & VARIES YP. & VARIES TRAVEL LANE TRAVEL LANE YP. & VARIES PARKING LANE BICYCLE BICYCLE LANE LANE MATCH EXIST. — MATCH EXIST.\* MATCH EXIST.\* ---MATCH EXIST.\* —

MICROMILLING AND PAVEMENT OVERLAY TYPICAL SECTION EAST PLEASANT ST. STA. 14+00 TO STA. 15+36 (ROW WIDTH VARIES 80'-88'±) TRIANGLE ST. STA. 23+50 TO STA. 24+00 (ROW WIDTH 45'±)

\*TOLERANCE FOR CONSTRUCTION ± 0.5% \*\*SEE PAVEMENT MARKING PLANS FOR PAVEMENT WIDTHS AND TURN LANE LAYOUTS



\*TOLERANCE FOR CONSTRUCTION ± 0.5% \*\*SEE PAVEMENT MARKING PLANS FOR PAVEMENT WIDTHS AND TURN LANE LAYOUTS



AT SPLITTER MEDIAN ISLAND TYPICAL SECTION EAST PLEASANT ST. 16+72 TO STA. 17+34 (ROW WIDTH VARIES 100'-108'±) EAST PLEASANT ST. STA. 34+25 TO STA. 34+85 (ROW WIDTH VARIES 98'-145'±)

\*TOLERANCE FOR CONSTRUCTION ± 0.5% \*\*SEE PAVEMENT MARKING PLANS FOR PAVEMENT WIDTHS AND TURN LANE LAYOUTS

TOWN OF AMHERST, MA

**TYPICAL SECTIONS** 

## **PAVEMENT NOTES**

#### PROPOSED MICROMILLING & PAVEMENT OVERLAY

2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) SURFACE

2" PAVEMENT MILLING & OVERLAY

#### PROPOSED FULLL DEPTH RECONSTRUCTION & 6' MIN, WIDENING

SURFACE:

2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) COURSE

MATERIAL PLACED IN ONE COURSE.

4" DENSE GRADED CRUSHED STONE OVER 8" GRAVEL BORROW, TYPE b.

#### PROPOSE FULL DEPTH RECONSTRUCTION (<4' WIDENING)

SURFACE:

2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

BASE:

BASE:

SUBBASE:

**8" HIGH EARLY STRENGTH CONCRETE** 

FOUNDATION: 8" GRAVEL BORROW, TYPE b.

#### PROPOSED PAVEMENT MICROMILLING & PAVEMENT OVERLAY

SURFACE:

2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)

PAVEMENT MICROMILLING VARIABLE DEPTH (2" TYPICAL)

TO MEET PROPOSED GRADING

#### PROPOSED CEMENT CONCRETE WALK AND WHEELCHAIR RAMPS

4" CEMENT CONCRETE

AIR ENTRAINED 4000 PSI, 3/4", 610

FOUNDATION: 8" GRAVEL BORROW, TYPE b.

#### PROPOSED CEMENT CONCRETE DRIVEWAYS AND DRIVEWAY APRONS

SURFACE:

**6" CEMENT CONCRETE** 

FOUNDATION

8" GRAVEL BORROW, TYPE b.

#### PROPOSED ASPHALT DRIVEWAYS

SURFACE:

2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)

FOUNDATION: 8" GRAVEL BORROW, TYPE b.

#### TACK COAT (RS-1)

ALL PAVEMENT SURFACES SHALL BE TACK COATED PRIOR TO OVERLAY AT A RATE OF 0.05 GAL/SY FOR SMOOTH SURFACES AND 0.07 GAL/SY FOR MILLED SURFACES.

#### **JOINT SEALANT**

HOT APPLIED JOINT SEALANT SHALL BE APLIED TO ALL COLD JOINTS, LONGITUDINAL AND TRAVERSE AND AT FRAMES AND CURBING PRIOR TO PAVING.

#### NOTE

EXISTING GRAVEL BORROW TESTED AND SHOWN TO BE MEETING THE REQUIREMENT OF M1,03,0 SHALL REMAIN AS BASE AND/OR SUBBASE WITH APPROVAL BY THE ENGINEER. PROPOSED GRAVEL BORROW SHALL BE USED TO REPLACE ANY UNSUITABLE MATERIAL AND FOR LEVELING AS REQUIRED.

SCALE: N.T.S.

PROJECT NO. 0572-104 FILE NAME: **HD (Typical Secti** 

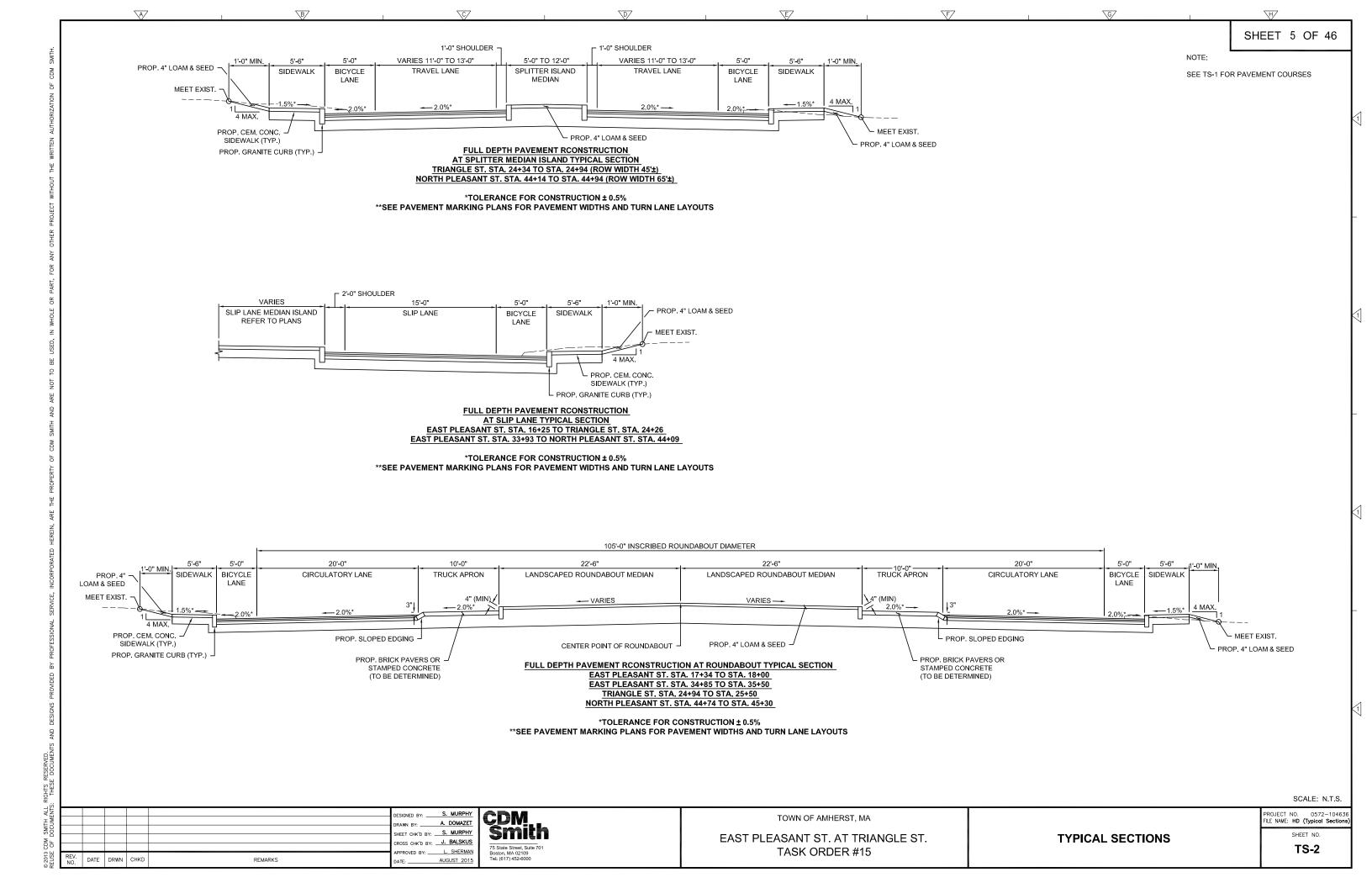
TS-1

 $\overline{A}$ 

ESIGNED BY: S. MURPHY A. DOMAZET SHEET CHK'D BY: S. MURPHY CROSS CHK'D BY: J. BALSKUS PROVED BY: \_\_\_ L. SHERMAN DATE DRWN CHKD REMARKS AUGUST 2015

75 State Street, Suite 701

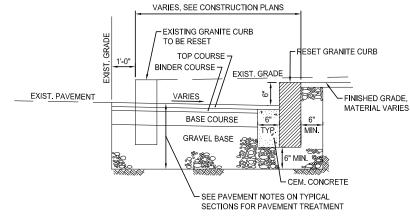
EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15



#### CEM. CONC. SIDEWALK AT EXISTING WALLS AND FOUNDATION DETAIL

#### NOTES:

- 1. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 6" FROM ALL EXISTING WALLS.
- WHERE THE PROPOSED BACK OF WALK ELEVATION IS HIGHER THAN EXISTING GRADE AT THE FACE OF WALL/STRUCTURE, UNLESS OTHERWISE REQUIRED BY ENGINEER, BACK OF WALK FILL SHALL BE 4" 4000 PSI, 3/4" 610 CEM. CONC. GRADED TO DRAIN TOWARDS SIDEWALK. INSTALL EXPANSION JOINT AT THE BACK OF WALK AND THE FACE OF THE WALL OR FOUNDATION. NO REMOVAL OF MATERIAL WITHIN 6" OF WALLS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL FROM ENGINEER.



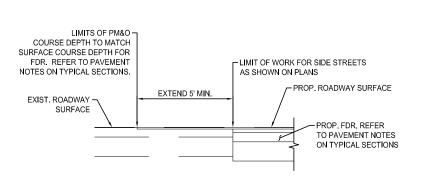
THE PROCEDURE SHOWN IS APPLICABLE ONLY IF THE CURB IS TO BE SET AFTER BASE AND/OR BINDER COURSE ARE IN PLACE, OTHERWISE CEMENT CONRETE WILL BE ELIMINATED AND GRAVEL BROUGHT UP TO BOTTOM OF BASE COURSE.

REFER TO PAVEMENT NOTES

ON TYPICAL SECTIONS

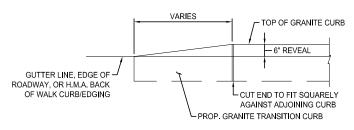
GRANITE CURB (TYP. 6" REVEAL)

### **RESET GRANITE CURB** (FULL DEPTH CONSTRUCTION AND 6' MIN. WIDENING)



**PAVEMENT KEY-WAY AT LIMITS OF WORK FOR SIDE STREETS** 

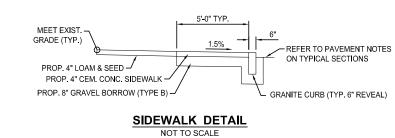
NOT TO SCALE



#### 0"-6" TRANSITION CURB DETAIL

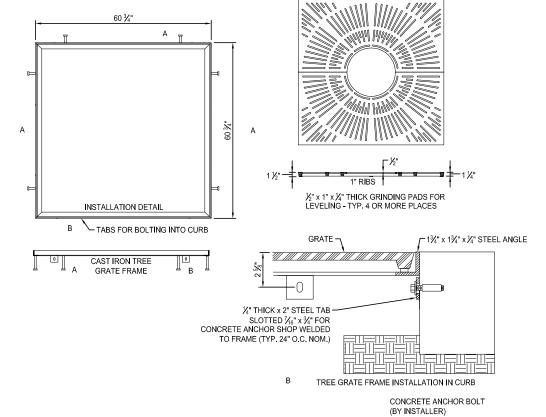
NOT TO SCALE

TO BE USED AT ALL LOCATIONS WHERE VERTICAL GRANITE CURB ENDS INCLUDING BACK OF WALK CURBING



SIDEWALK WITH GRASS BUFFER DETAIL

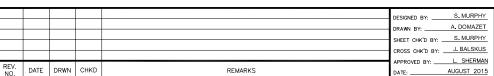
NOT TO SCALE



**CAST IRON TREE FRAME AND GRATE** NOT TO SCALE

### PROP. GRANITE TRANSITION CURB VARIES TOP OF GRANITE CURB REVEAL VARIES -- REVEAL VARIES CUT END TO FIT SQUARELY AGAINST ADJOINING CURB

### 1"-7" TRANSITION CURB DETAIL





MEET EXIST. -GRADE (TYP.)

PROP. 4" LOAM & SEED -

PROP. 4" CEM. CONC. SIDEWALK ~

PROP. 8" GRAVEL BORROW (TYPE B) -

TOWN OF AMHERST, MA

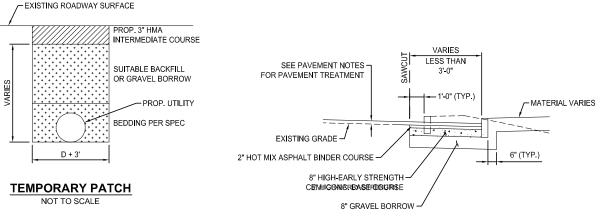
EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

SIDEWALK/CURB CONSTRUCTION DETAILS

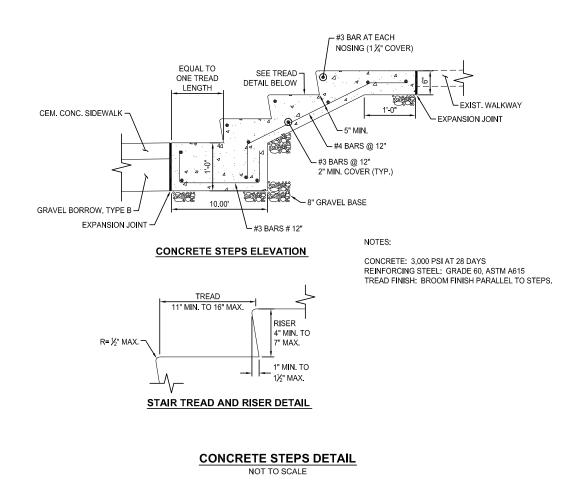
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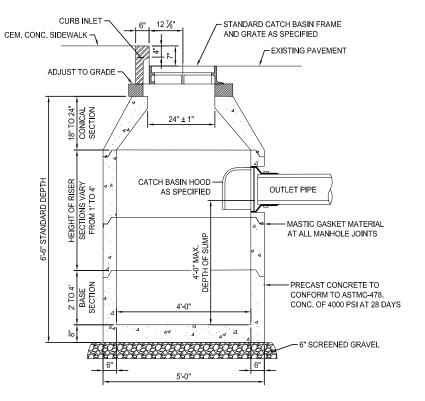
CD-1



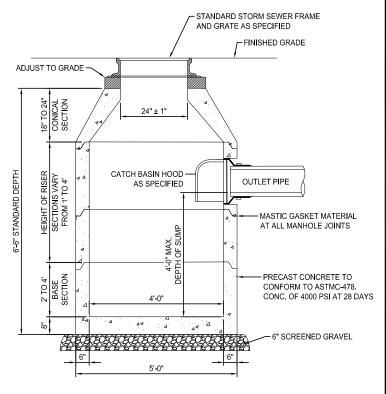


### TYPICAL ROADWAY WIDENING SECTION (<3'-0" NOT TO SCALE



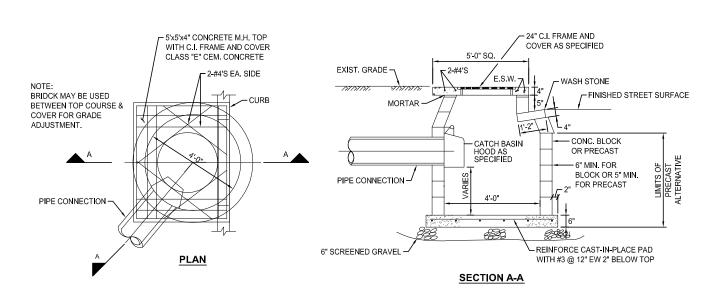


PRECAST CATCH BASIN (INSTALLED IN STREET)



PRECAST STORM SEWER MANHOLE

NOT TO SCALE



STANDARD CATCH BASIN (INSTALLED IN SIDEWALK)

ii l							
						DESIGNED BY:	S. MURPHY
DOCUMENT						DRAWN BY:	A. DOMAZET
00						SHEET CHK'D BY: _	S.MURPHY
P						CROSS CHK'D BY: _	J. BALSKUS
						APPROVED BY:	L. SHERMAN
INSE	REV.	DATE	DRWN	CHKD	REMARKS	DATE:	AUGUST 2015

<u> </u>	CDM Smith
N	75 State Street, Suite 701 Boston, MA 02109
5	Tel: (617) 452-6000

TOWN OF AMHERST, MA

EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

DRAINAGE/MISC. CONSTRUCTION DETAILS

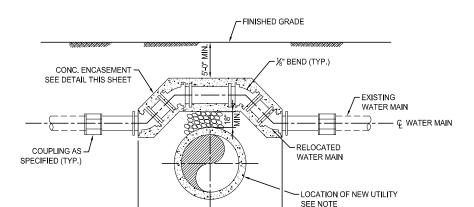
PROJECT NO. 0572—104636 FILE NAME: HD (Construction Details) SHEET NO.

CD-2

NOTE: ALL JOINTS SHALL BE RESTRAINED.

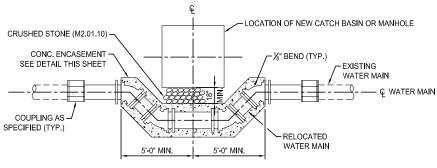
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## WATER MAIN VERTICAL RELOCATION ELEVATION (WATER MAIN RELOCATED BENEATH UTILITY)



5'-0" MIN.

NOTE: ALL JOINTS SHALL BE RESTRAINED.



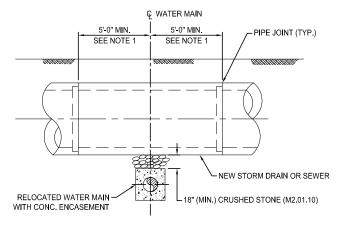
NOTE: ALL JOINTS SHALL BE RESTRAINED.

#### WATER MAIN HORIZONTAL RELOCATION PLAN

REMARKS

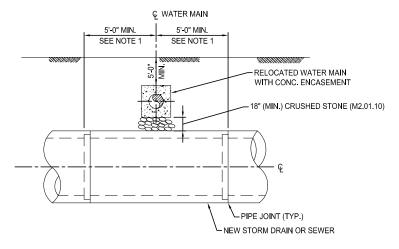
DATE DRWN CHKD

NOT TO SCALE



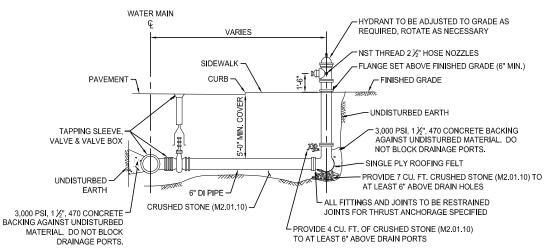
## WATER MAIN VERTICAL RELOCATION SECTION (WATER MAIN RELOCATED BENEATH UTILITY)

NOT TO SCALE



### WATER MAIN VERTICAL RELOCATION SECTION (WATER MAIN RELOCATED ABOVE UTILITY)

TO THE EXTENT POSSIBLE NEW WATER MAINS SHALL CROSS OVER EXISTING SEWERS.
WATER MAINS SHALL BE CONCRETE ENCASED IF THEY ARE INSTALLED UNDER AN
EXISTING SEWER. TO THE EXTEND POSSIBLE, ONE FULL LENGTH OF NEW MECHANICAL
JOINT WATER PIPE SHALL BE INSTALLED CENTERED UNDER THE SEWER CROSSING SO
THAT THE WATER PIPE JOINTS WILL BE AS FAR AWAY FROM THE SEWER CROSSING AS
POSSIBLE.



#### **HYDRANT RELOCATION DETAIL**

NOT TO SCALE

NOTE

- . ALL WATER GATES & HYDRANTS TO OPEN RIGHT
- HYDRANTS SHALL BE LOCATED TO ALLOW COMPLETE/FREE TURNING OF A STANDARD HYDRANT WRENCH.
   SHOULD FIELD ADJUSTMENTS BE REQUIRED TO PROPOSED HYDRANT LOCATIONS SHOWN ON THE
- SHOULD FIELD ADJUSTMENTS BE REQUIRED TO PROPOSED HYDRANT LOCATIONS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL CONSULT WITH THE TOWN OF AMHERST DEPARTMENT OF PUBLIC WORKS AND RESIDENT ENGINEER.

PROVED BY: \_\_\_\_\_\_L. SHERMAN

AUGUST 2015

**CDM Smith**75 State Street, Suite 701
Boston, MA 02109
Tel: (617) 452-6000

TOWN OF AMHERST, MA

EAST PLEASANT ST. AT TRIANGLE ST.
TASK ORDER #15

WATER MAIN/HYDRANT CONSTRUCTION DETAILS

PROJECT NO. 0572—104636 FILE NAME: HD (Construction Details

CD-3

WATER MAIN VERTICAL RELOCATION ELEVATION
(WATER MAIN RELOCATED ABOVE UTILITY)

NOT TO SCALE

NOTES:

CRUSHED STONE (M2.01.10)

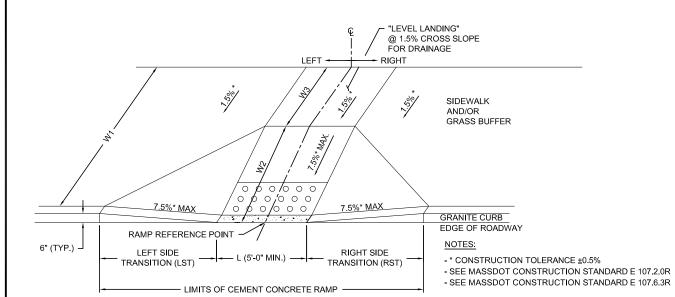
CONC. ENCASEMENT
SEE DETAIL THIS SHEET

ONTER MAIN

NOTES:

1. IF A SEWER OR DRAIN PIPE JOINT FALLS LESS THAN 5-0" FROM 5 OF WATER MAIN, SEWER OR DRAIN PIPE MUST ALSO BE ENCASED IN 6" OF CONCRETE 5-0" EACH SIDE OF WATER MAIN.

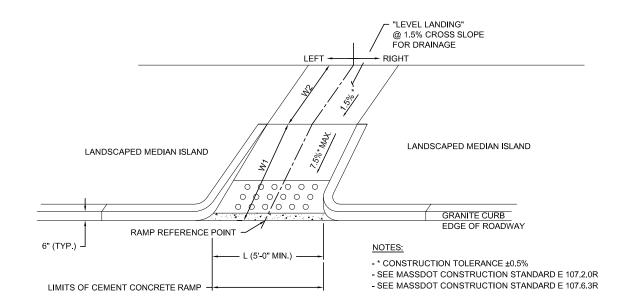
2. TO THE EXTENT POSSIBLE NEW WATER MAINS SHALL CROSS OVER EXISTING SEWERS



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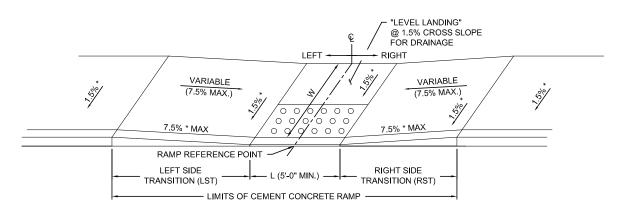
### WHEELCHAIR RAMP PERPENDICULAR (SIDEWALK WIDTHS > 10'-4")

WCR#	STREET	RAMP REFERENCE POINT	W1	W2	W3	L	ROADWAY SLOPE	LST	RST
1	SLIP LANE (SOUTH)	50+60.17, CL	10.67'	6.67'	4.00'	5.00'	0.73%	7.67'	6.50'
5	EAST PLEASANT ST. (S)	17+13.00, 22.73' LT	10.67'	6.67'	4.00'	5.00'	1.51%	6.50'	9.00'
6	TRIANGLE ST.	24+66.35, 23.29' RT	10.67'	6.67'	4.00'	5.00'	1.42%	9.00'	6.50'
7	NORTH PLEASANT ST.	44+50.35, 23.00' RT	16.00'	6.67'	9.33'	5.00'	0.50%	7.67'	6.50'
8	EAST PLEASANT ST. (N)	34+64.90, 23.72' LT	13.58'	8.20'	5.38'	5.00'	-0.78%	7.67'	6.50'



#### WHEELCHAIR RAMP AT SLIP LANE MEDIAN ISLAND

WCR#	STREET	RAMP REFERENCE POINT	W1	W2	L	ROADWAY SLOPE
2	SLIP LANE (SOUTH)	50+60.17, 22.00' LT	6.50'	4.00'	5.00'	0.73%
3	EAST PLEASANT ST. (S)	17+10.67, 18.75' RT	6.50'	4.00'	5.00'	1.51%
4	TRIANGLE ST.	24+74.11, 19.63' LT	6.50'	4.00'	5.00'	1.42%



#### WHEELCHAIR RAMP PERPENDICULAR (SIDEWALK WIDTHS < 10'-4")

WCR#	STREET RAMP REFERENCE POINT  SLIP LANE (NORTH) 60+39.10, CL		W	L	ROADWAY SLOPE	LST	RST
9	SLIP LANE (NORTH)	60+39.10, CL	5.00'	5.00'	-2.17%	11.00'	6.50'

- NOTES:

  1. UNLESS OTHERWISE NOTED, THE LOW SIDE TRANSITION LENGTH IS 6'-6" AND MAY BE EITHER ON THE RIGHT OR LEFT SIDE OF THE RAMP
  2. FOR HIGH SIDE TRANSITION LENGTH SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0
- FOR DETECTABLE WARNING PANEL DETAILS REFER TO MASSDOT CONSTRUCTION STANDARD 107.6.5R

						DESIGNED BY: S. MURPHY	4
						DRAWN BY: A. DOMAZET	Ę
╙						SHEET CHK'D BY: S. MURPHY	1
╙						CROSS CHK'D BY: J. BALSKUS	
╙						APPROVED BY: L. SHERMAN	1
RI	EV. 1	DATE	DRWN	CHKD	REMARKS	DATE: AUGUST 2015	

CDM Smith
75 State Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000

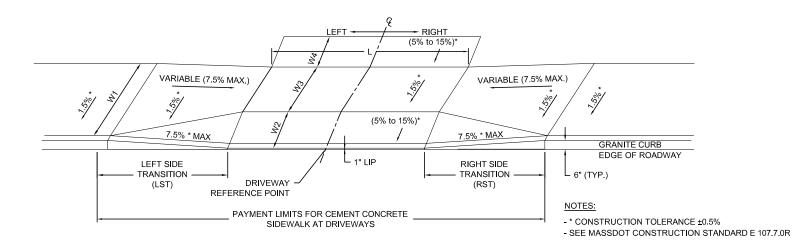
EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

TOWN OF AMHERST, MA

WHEELCHAIR RAMP DETAILS

PROJECT NO. 0572-104636 FILE NAME: HD (Driveway Details

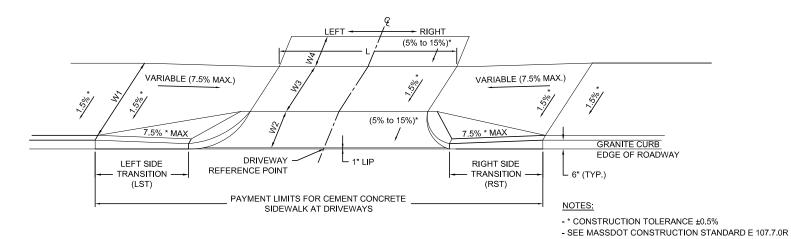
DD-1



#### SIDEWALK THROUGH DRIVEWAY WITHOUT CURB RETURNS

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DW#	STREET	RAMP REFERENCE POINT	W1	W2	W3	W4	L	ROADWAY SLOPE	LST	RST
1	EAST PLEASANT ST. (N)	34+15.64, 19.67' LT	16.60'	11.22'	5.38'	0.00'	23.33'	-1.47%	9.00'	6.50'



#### SIDEWALK THROUGH DRIVEWAY WITH CURB RETURNS

DW#	STREET	RAMP REFERENCE POINT	W1	W2	W3	W4	L	ROADWAY SLOPE	LST	RST
2	NORTH PLEASANT ST.	42+77.02, 17.00' LT	5.50'	2.00'	3.50'	7.50'	20.33'	1.26%	6.50'	9.00'

- NOTES:

  1. UNLESS OTHERWISE NOTED, THE LOW SIDE TRANSITION LENGTH IS 6'-6" AND MAY BE EITHER ON THE RIGHT OR LEFT SIDE OF THE RAMP

  2. FOR HIGH SIDE TRANSITION LENGTH SEE MASSDOT CONSTRUCTION STANDARD E 107.9.0

  3. FOR DETECTABLE WARNING PANEL DETAILS REFER TO MASSDOT CONSTRUCTION STANDARD 107.6.5R

DRAWN BY: A. DOMAZET SHEET CHK'D BY: S. MURPHY CROSS CHK'D BY: J. BALSKUS PROVED BY: L. SHERMAN REV. DATE DRWN CHKD REMARKS AUGUST 2015

75 State Street, Suite 701

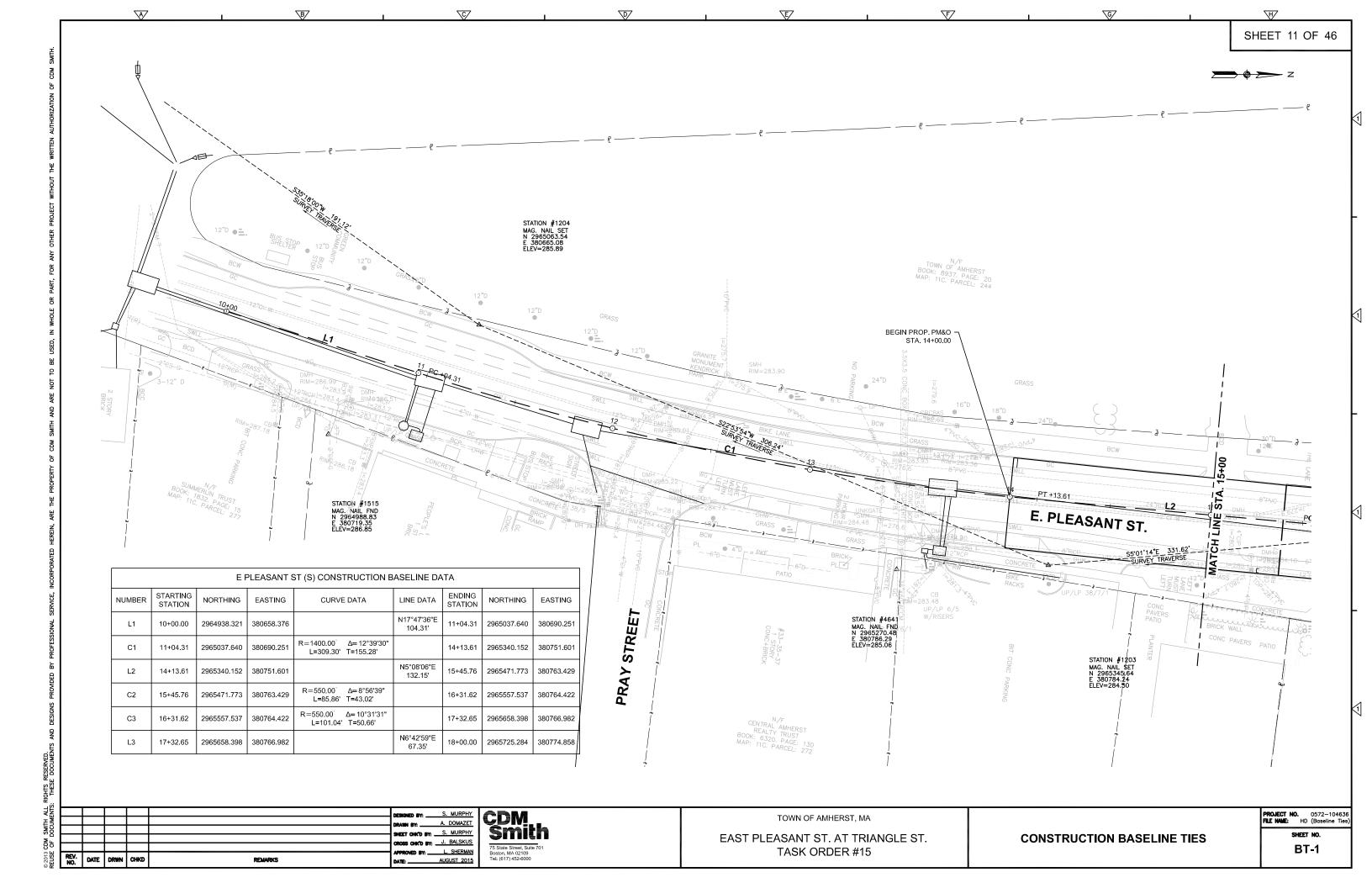
EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

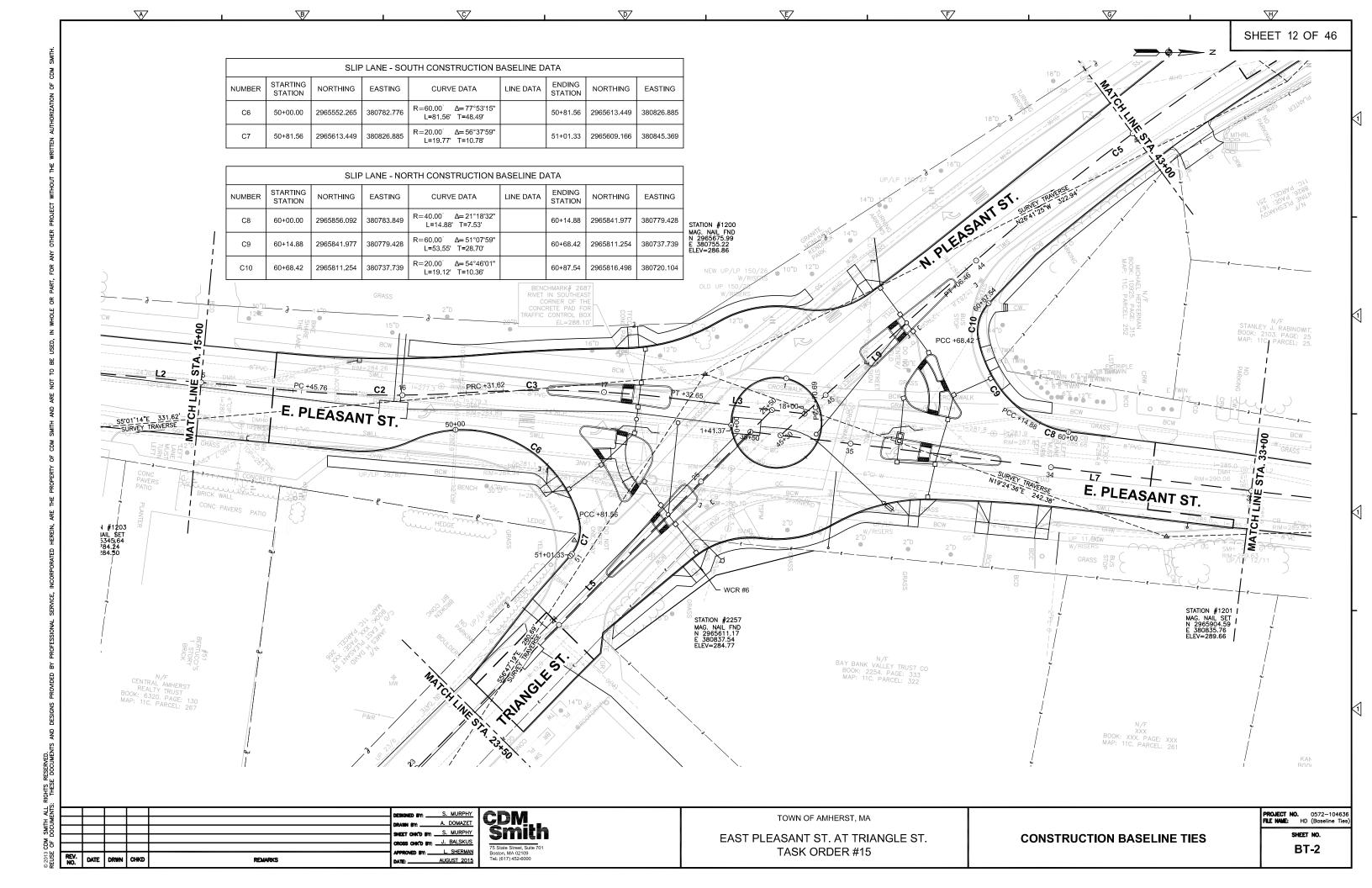
TOWN OF AMHERST, MA

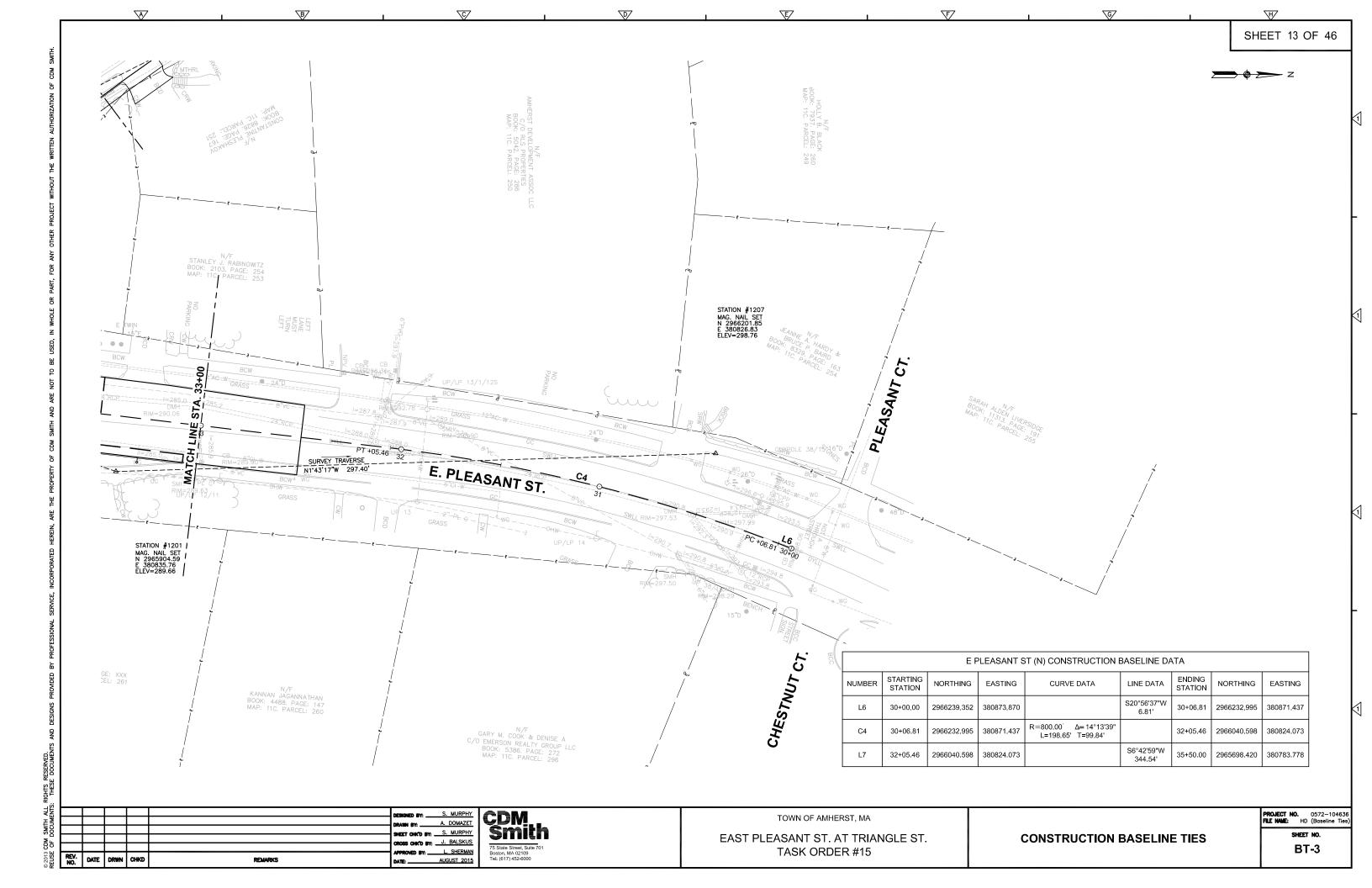
**DRIVEWAY DETAILS** 

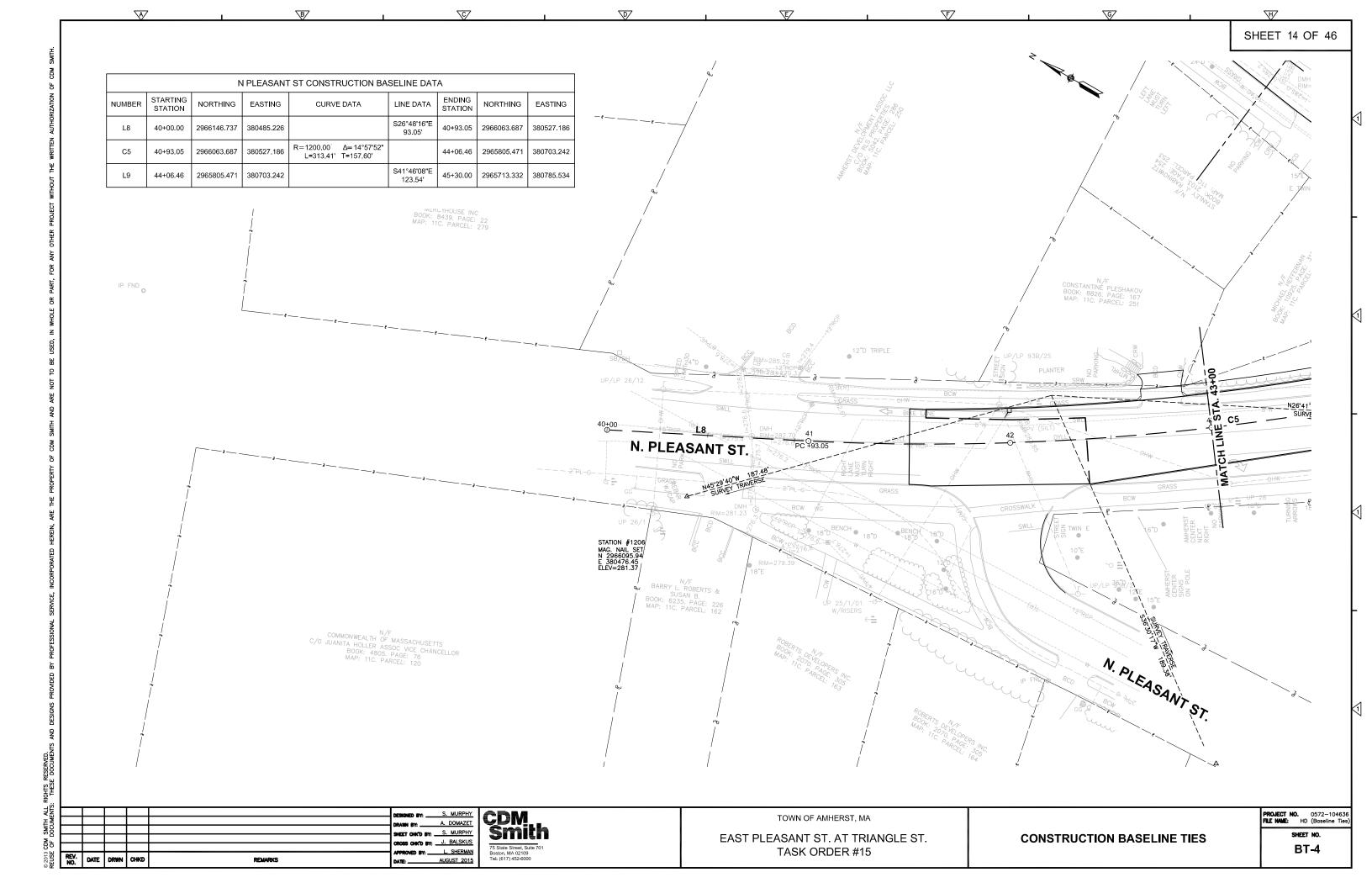
PROJECT NO. 0572-104636 FILE NAME: HD (Driveway Details

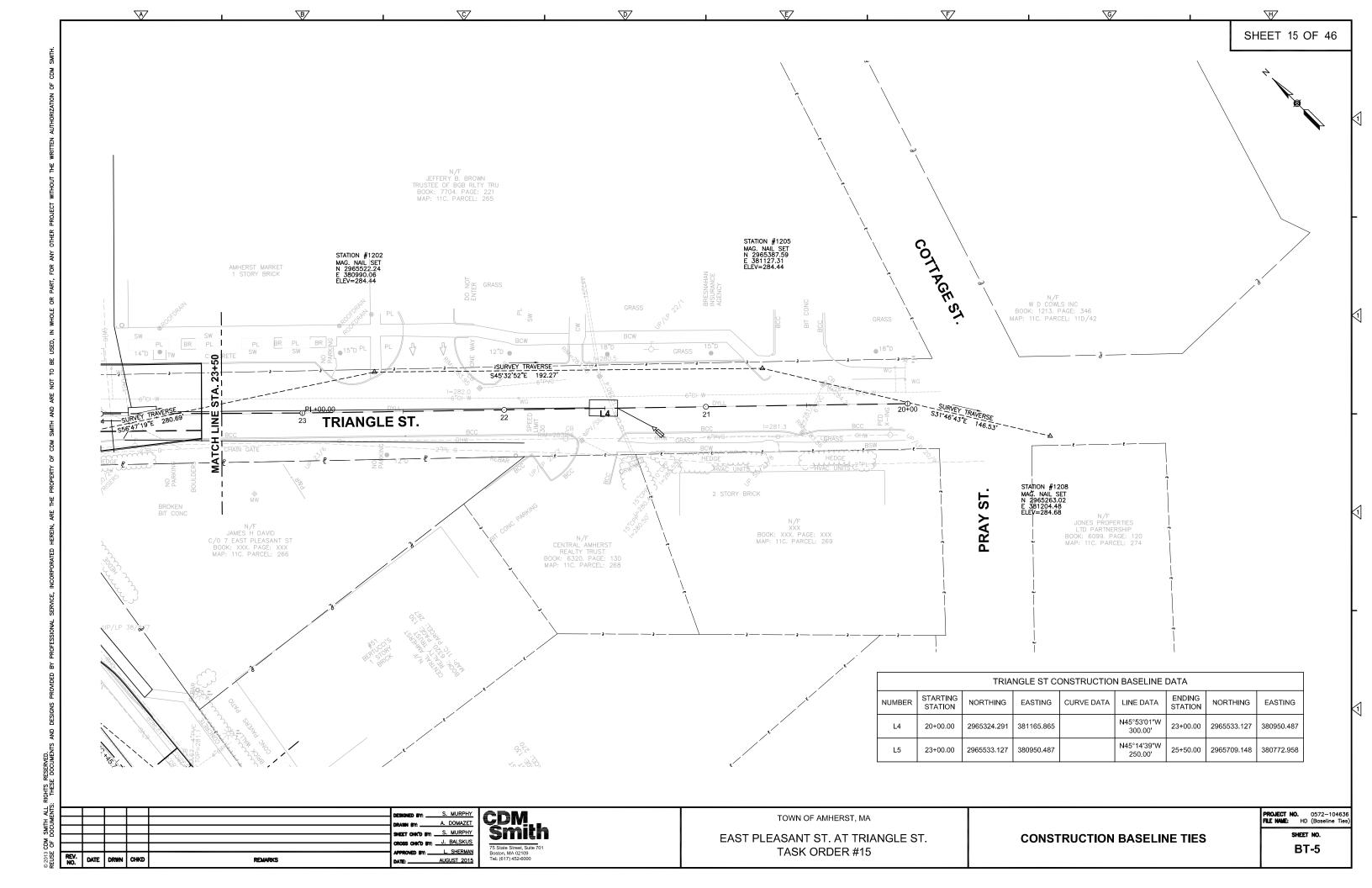
DD-2

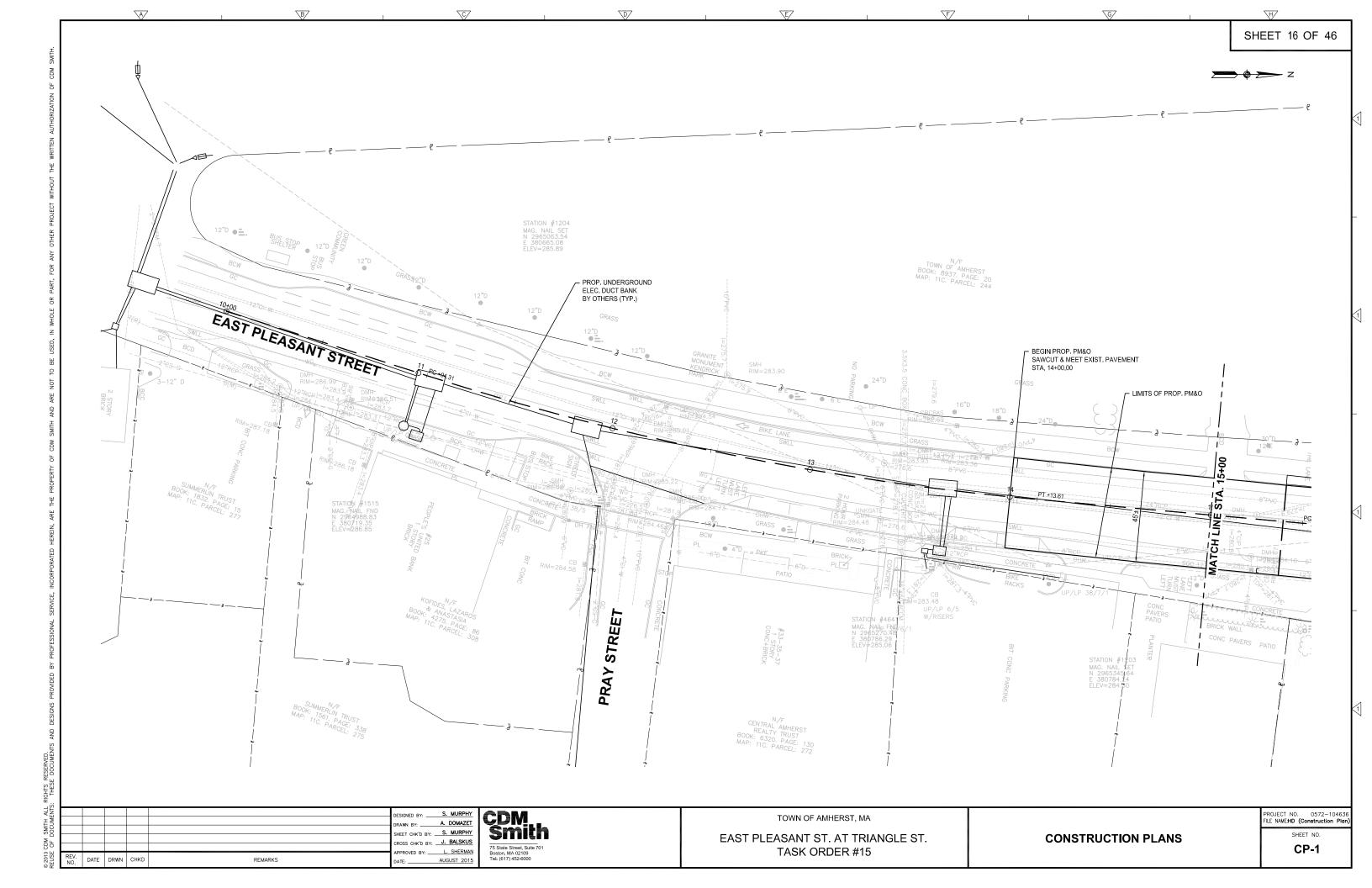


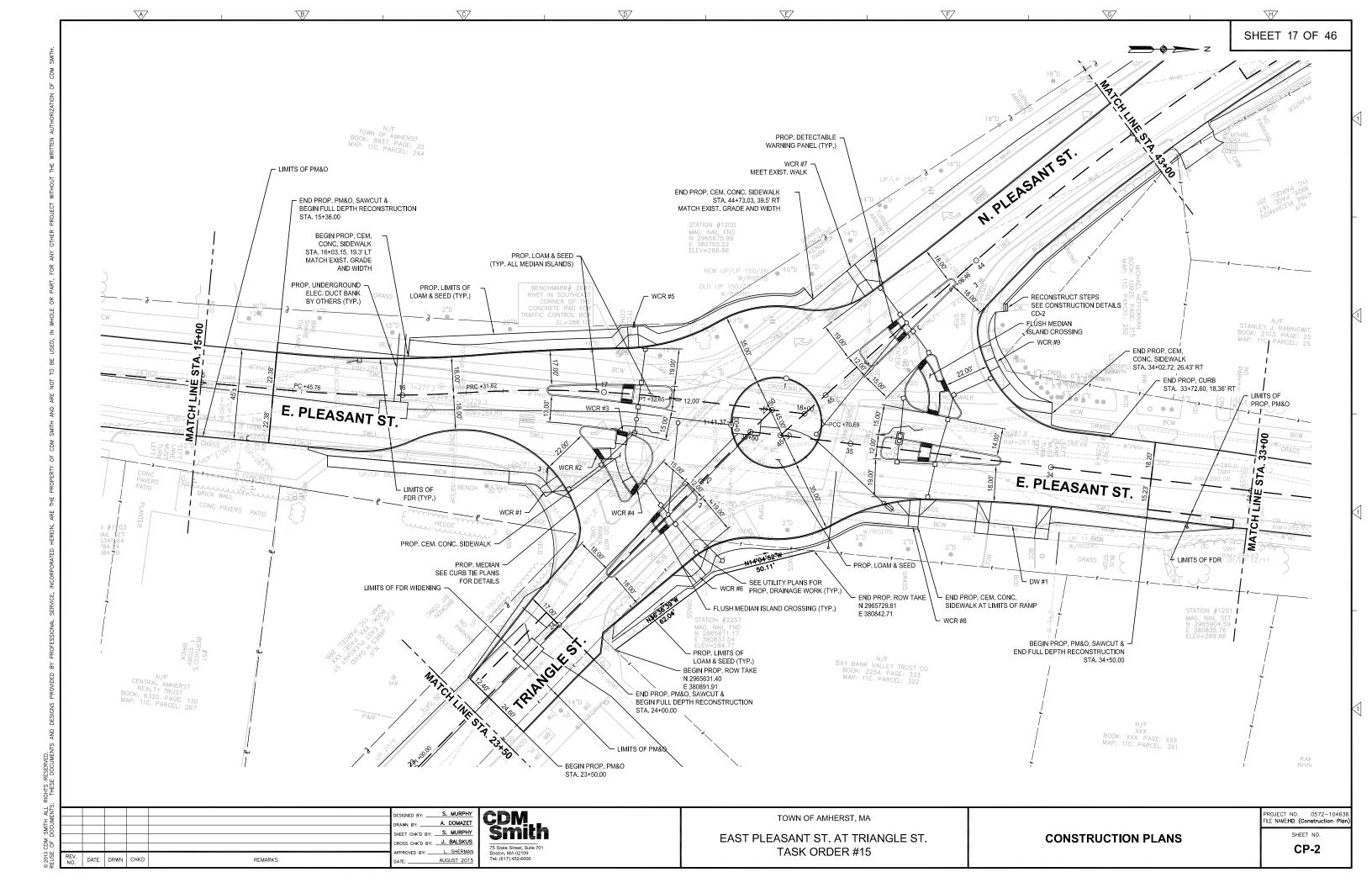


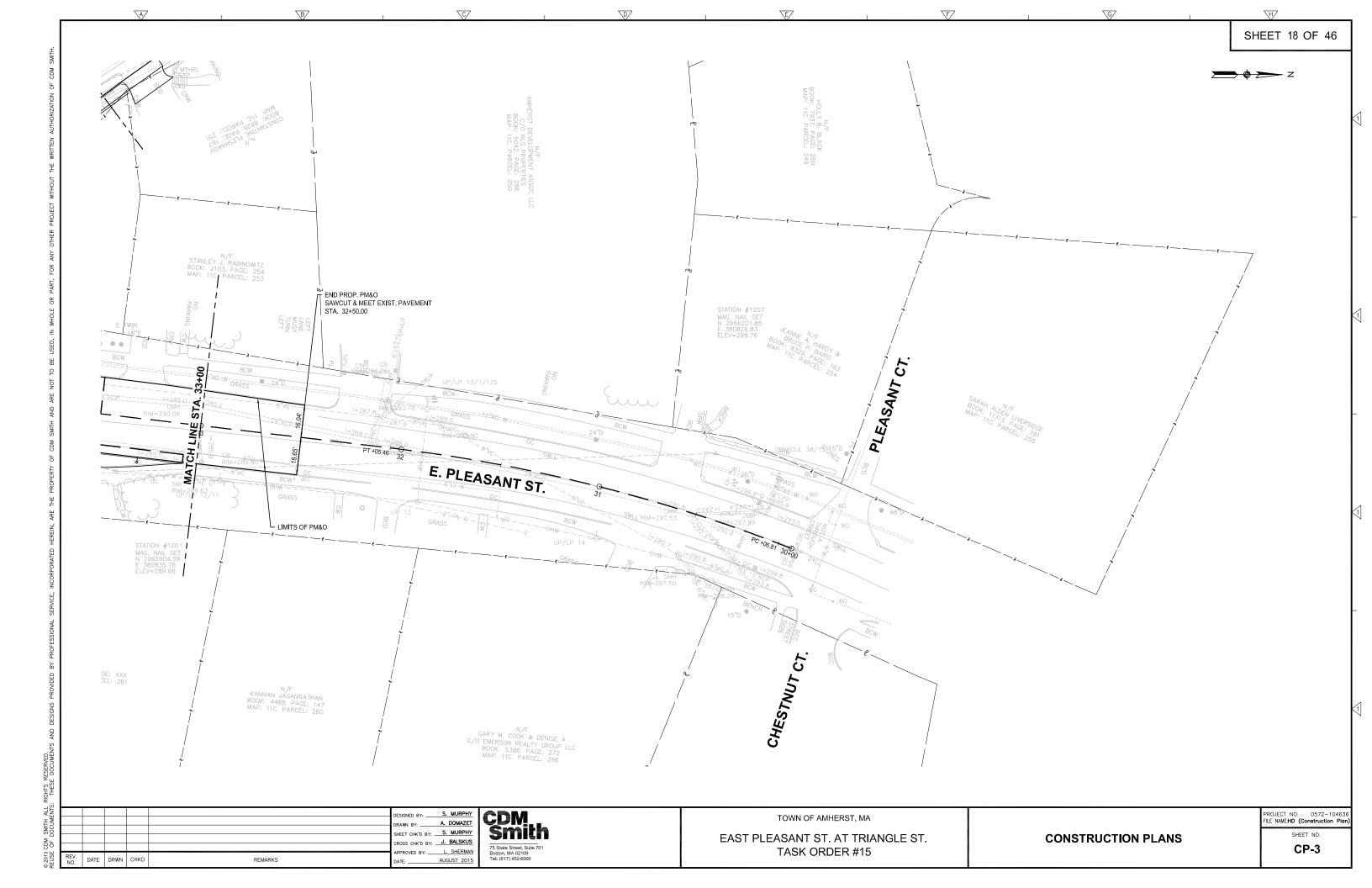


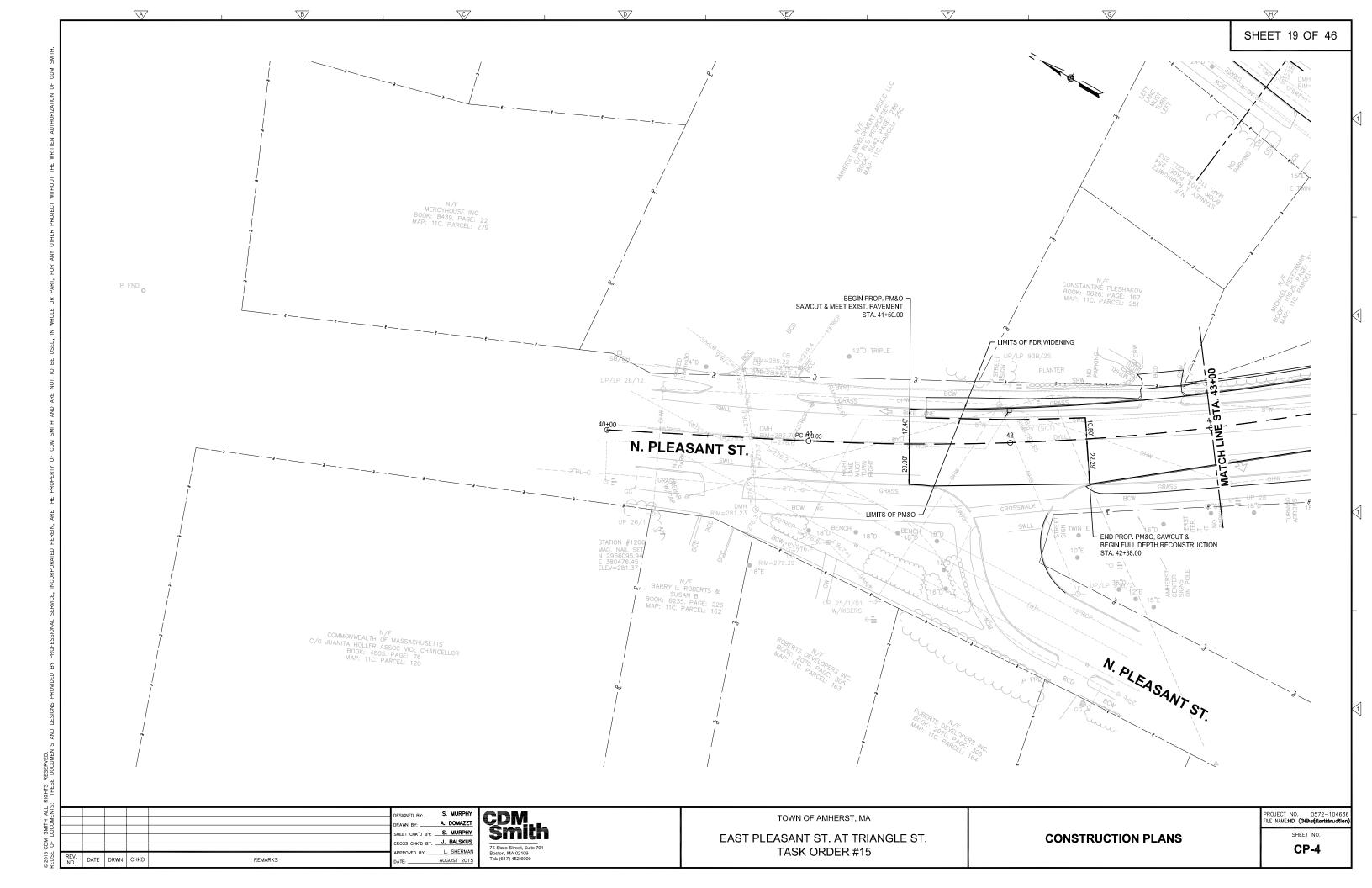


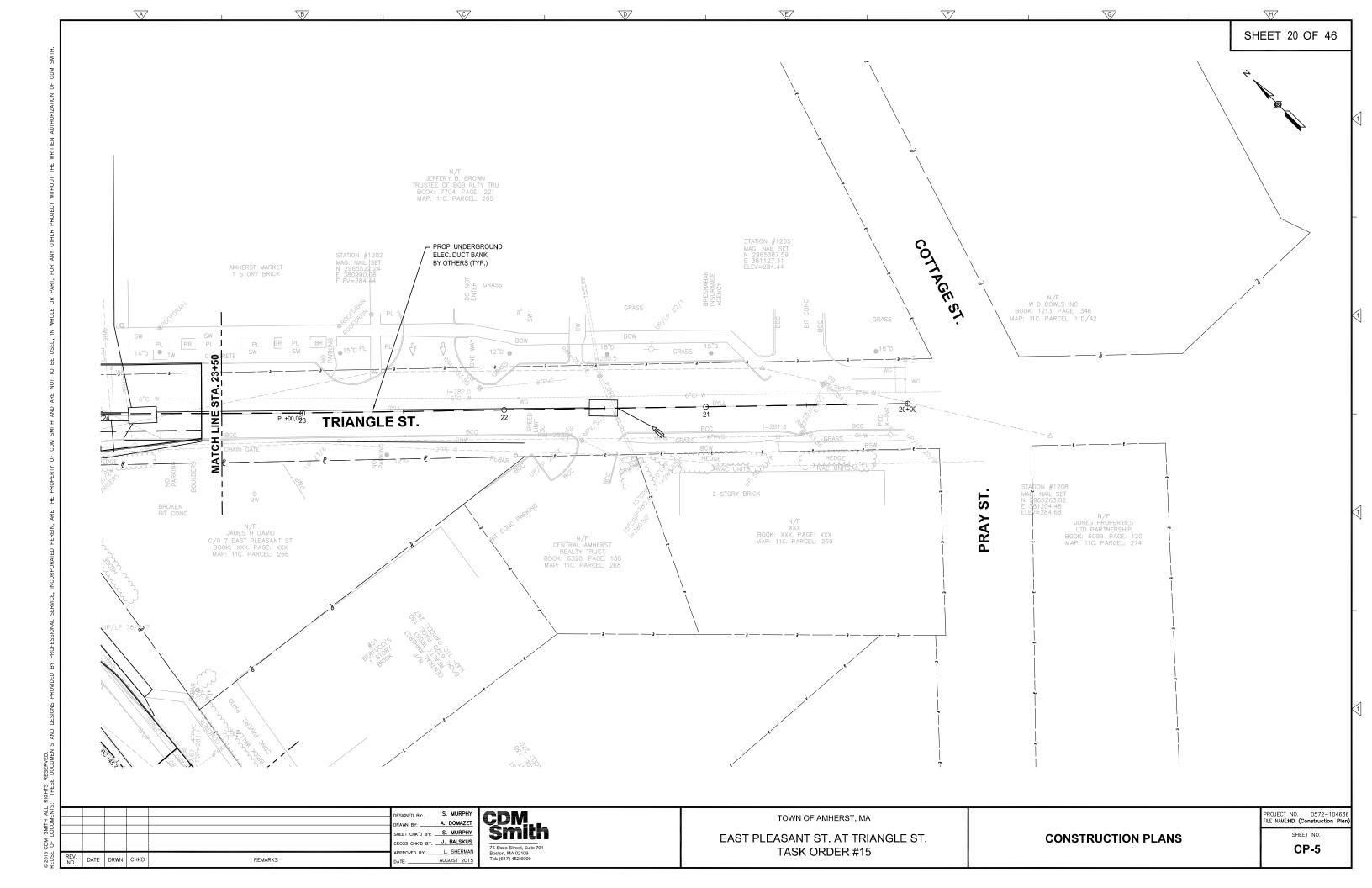




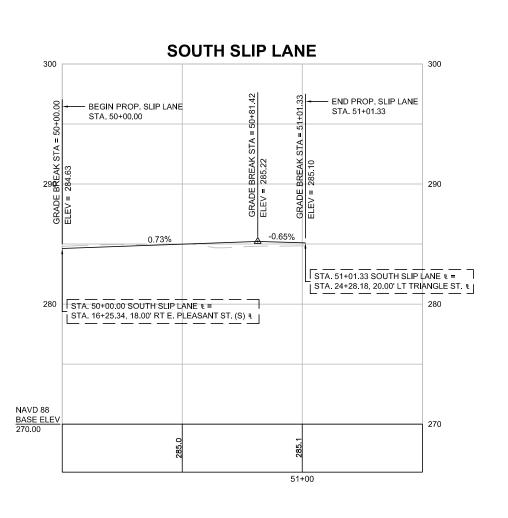




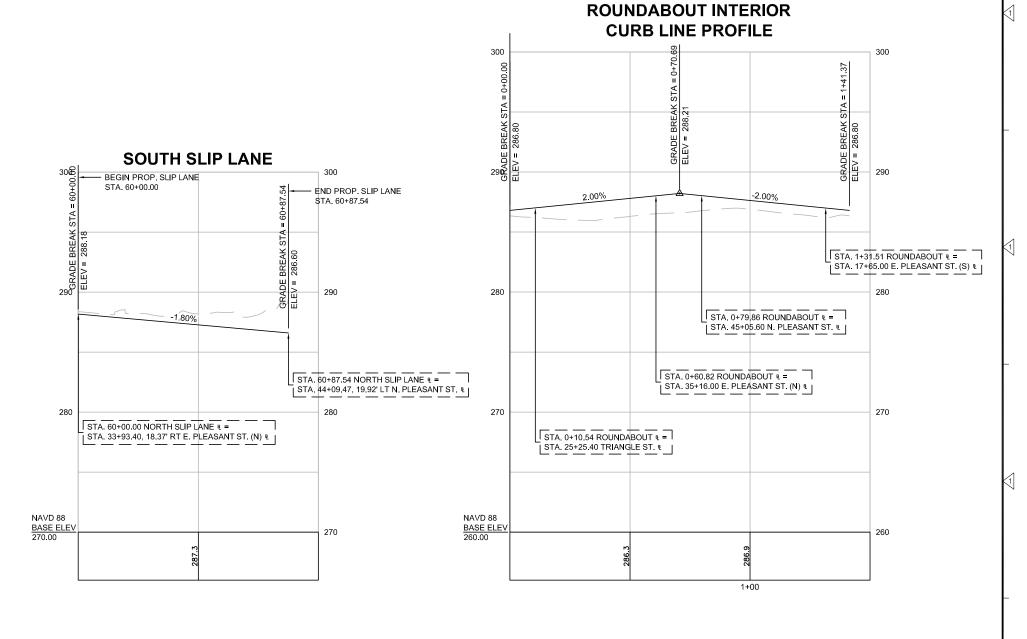




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					DESIGNED BY:	S. MURPHY
					DRAWN BY:	A. DOMAZET
					SHEET CHK'D BY:	S. MURPHY
					CROSS CHK'D BY:	J. BALSKUS
-					APPROVED BY:	L. SHERMAN
REV. NO.	DATE	DRWN	CHKD	REMARKS	DATE:	AUGUST 2015



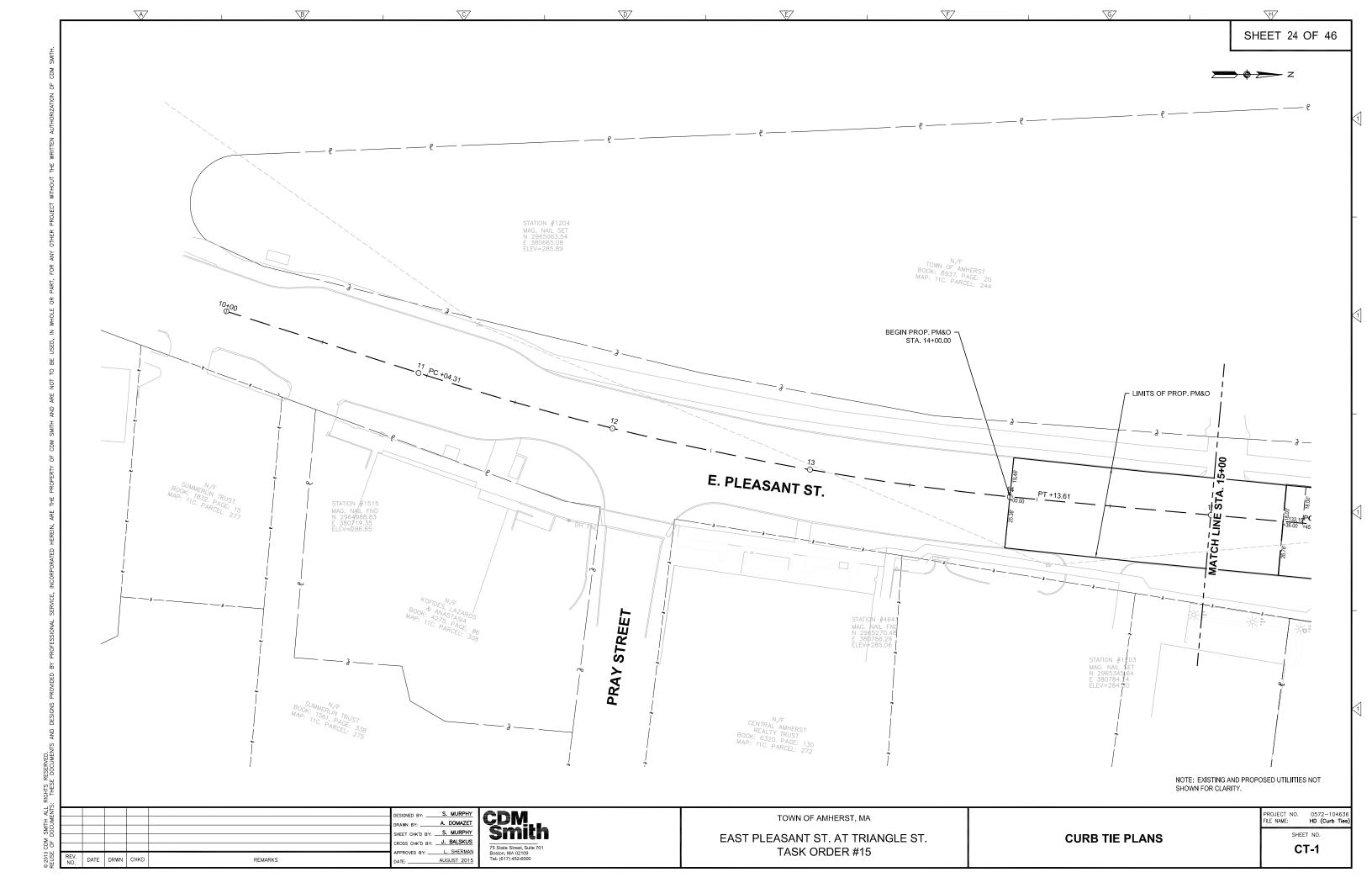
TOWN OF AMHERST, MA

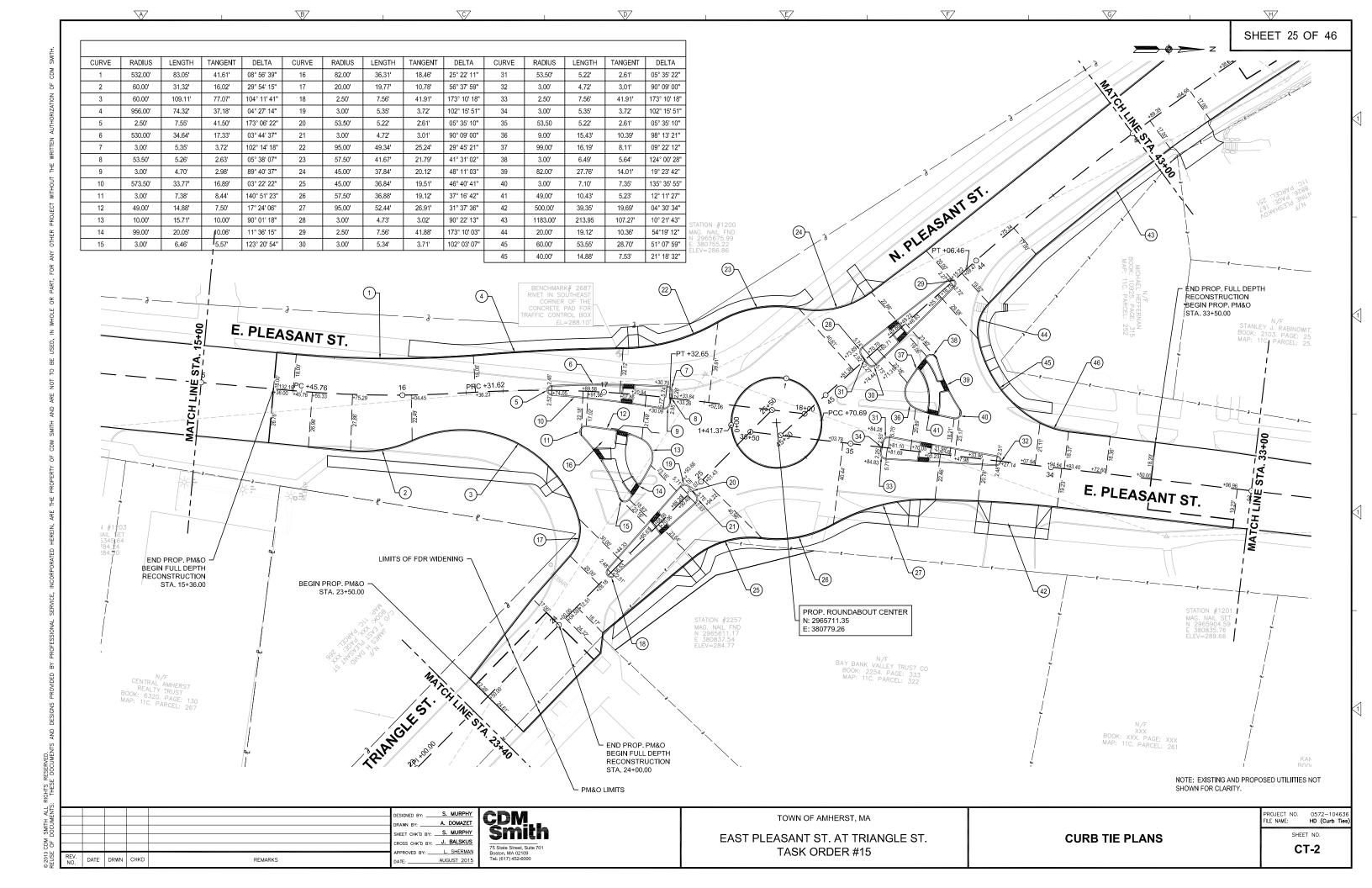
EAST PLEASANT ST. AT TRIANGLE ST.
TASK ORDER #15

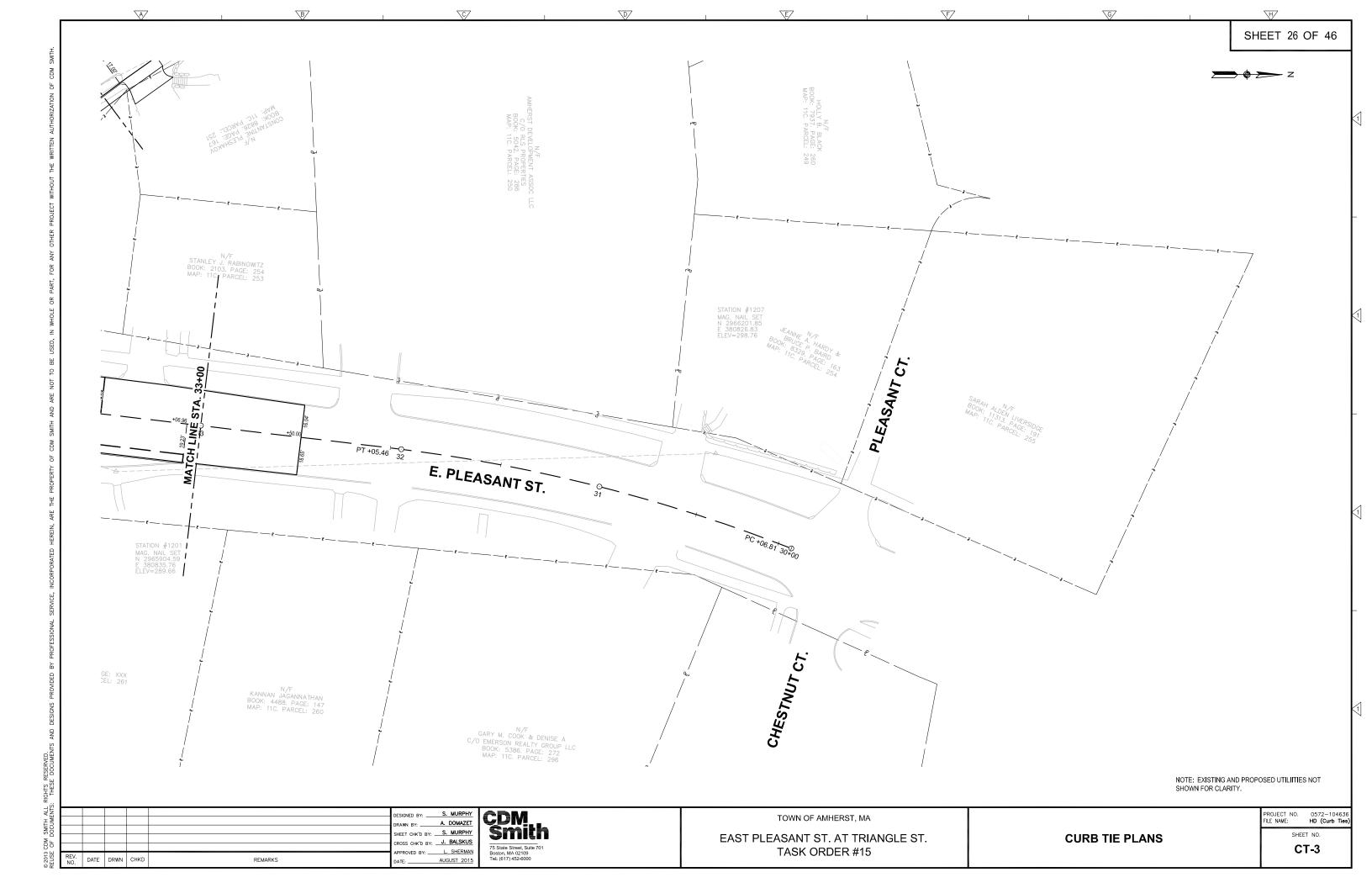
**PROFILES** 

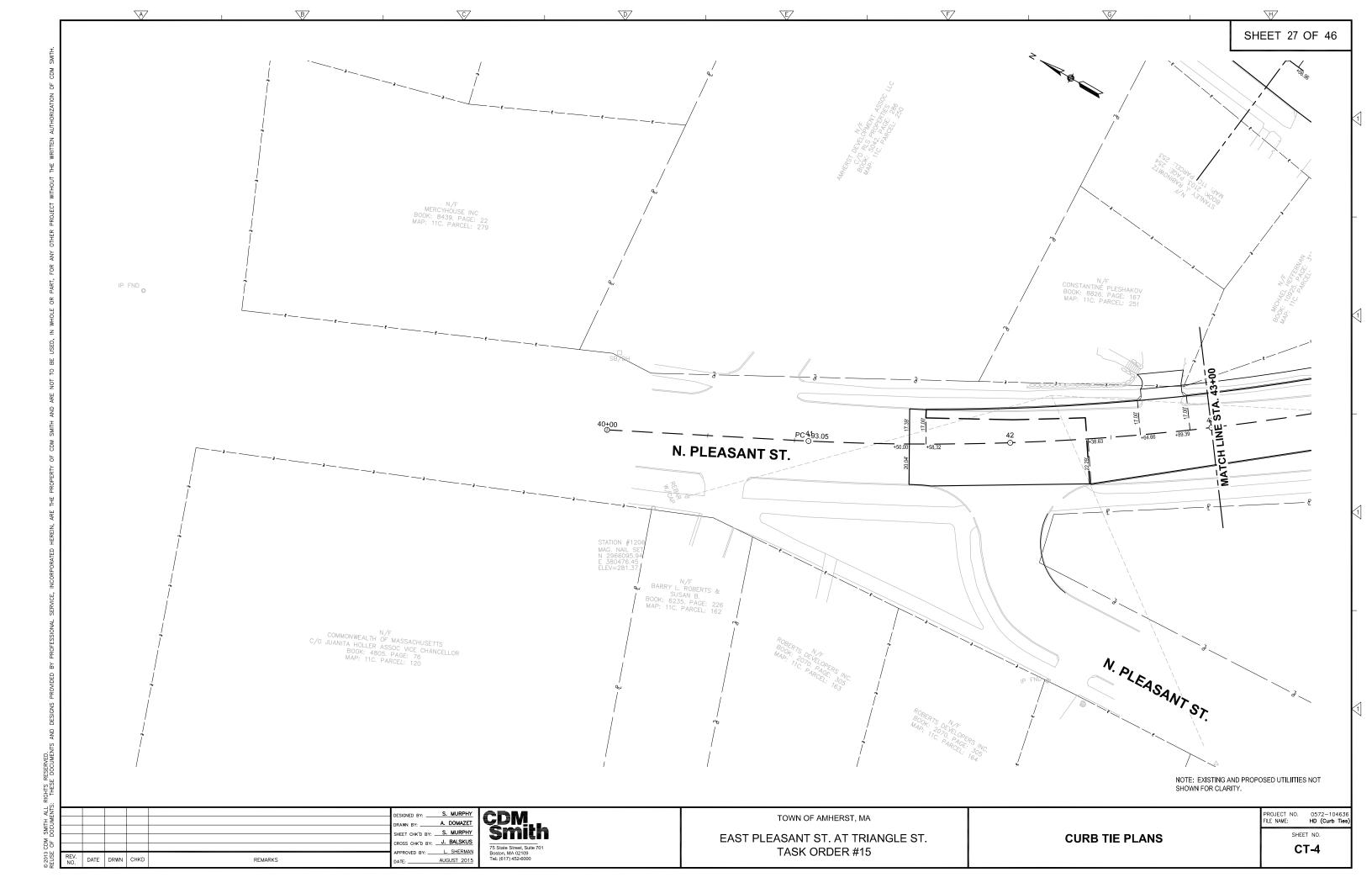
PROJECT NO. 0572-104636
FILE NAME: HD (Profiles
SHEET NO.
PR-3

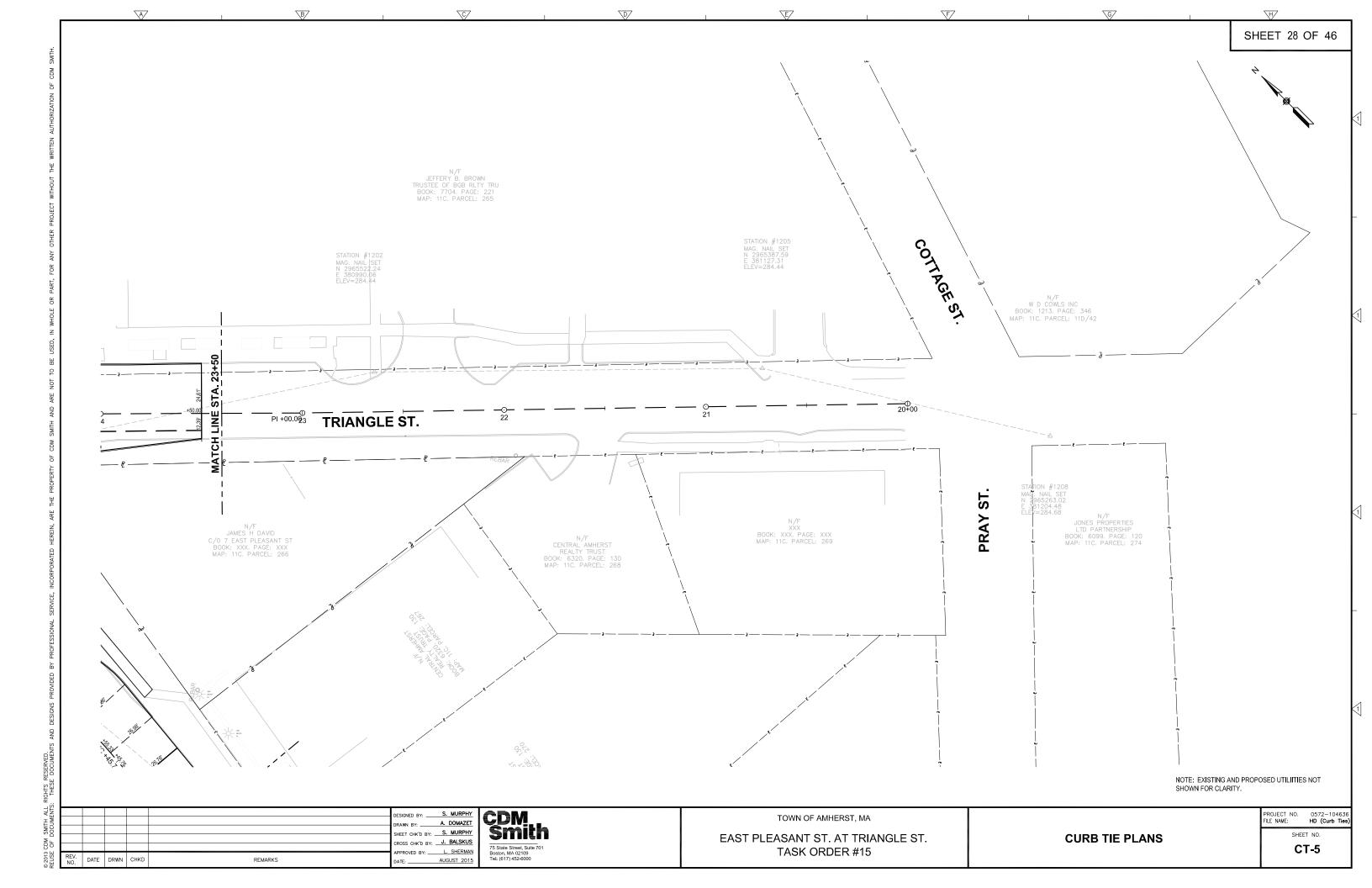
HOR. SCALE IN FEET











#### TRAFFIC SYMBOLS

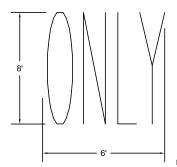
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EXISTING	B PROPOSED	DESCRIPTION
D	₩	MICROWAVE DETECTOR
$\oplus$	<u>•</u>	PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
*	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
<	-	VEHICULAR SIGNAL HEAD
4₫		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
←—	-	FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
⊠ RRSG	⊠RRSG	RAILROAD SIGNAL
	•	SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
·—·	<u>20'</u>	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
	0	SIGN AND POST
00	00	SIGN AND POST (2 POSTS)
	<del>**20</del> ′•	MAST ARM WITH LUMINAIRE
	-	OPTICAL PRE-EMPTION DETECTOR
	$\bowtie$	CONTROL CABINET, GROUND MOUNTED
	₾	CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
	×	LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT
<b>Ø</b> 1	<b>Ø</b> 1	CONTROLLER PHASE ACTUATED
	0	TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
	Ö	THAT TIC SIGNAL TILAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
2	7	VIDEO DETECTION CAMERA
<b>⊸</b>		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		(ALPHA-NUMERIC DESIGNATION NOTED)
— <b>o</b> rd	<b>—o</b>	RADAR DETECTOR
þ	<u> </u>	TRAFFIC SIGN & POST
		ZONE OF DETECTION FOR SPECIAL DETECTORS
		ZONE OF VISIBILITY FOR PROGRAMMED SIGNAL
		CONDUIT CROSSING ROADWAY WITH FLOWABLE FILL
	L	DETECTOR - LOCK
	NL →	DETECTOR - NON-LOCK VEHICLE MOVEMENT
	$\stackrel{\blacklozenge}{\longleftrightarrow}$	PEDESTRIAN MOVEMENT
	<b>→</b>	PERMISSIVE VEHICULAR MOVEMENT ONLY SHOWN ON
	÷	DETECTOR CONTROLLING PHASE PHASING DIAGRAMS
		DON'T WALK / WALK

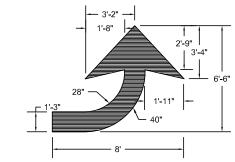
#### PAVEMENT MARKINGS SYMBOLS

<b>EXISTING</b>	PROPOSED	DESCRIPTION
4	<b>◆</b> 1	PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	cw	CROSSWALK
	SW/YL	SOLID WHITE/YELLOW LINE
	BW/YL	BROKEN WHITE/YELLOW LINE
	<u>DW/YL</u>	DOTTED WHITE/YELLOW LINE
	DW/YLEx	DOTTED WHITE/YELLOW LINE EXTENSION
	DBW/YL	DOUBLE WHITE/YELLOW LINE
<u> </u>	<u> </u>	REFLECTORIZED PAVEMENT MARKER
	WGL	WHITE GORE LINE - 8"
	YGL	YELLOW GORE LINE - 8"

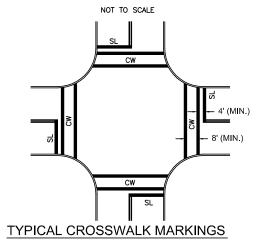
- \* BROKEN LANE LINES TO BE 10' IN LENGTH WITH 30' GAP (TYP)
- \* \* DASHED LINES TO BE 5' IN LENGTH WITH 5' GAP (TYP)



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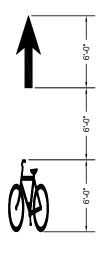


ARROW & ONLY=APPROX. 46.28 S.F.

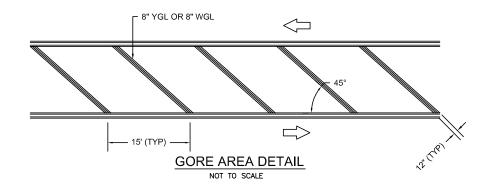


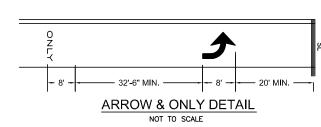
#### PAVEMENT MARKING AND SIGNING NOTES

- ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS NOTED OTHERWISE.
- 2. ALL PROPOSED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
- 3. REFER TO MASSDOT STANDARDS FOR ADDITIONAL INFORMATION.



**BICYCLE LANE DETAIL** NOT TO SCALE





L						DESIGNED BY:S. MURPHY
L						DRAWN BY: A. DOMAZET
L						SHEET CHK'D BY: S. MURPHY
L						CROSS CHK'D BY:J. BALSKUS
L						
Γ	REV. NO.	DATE	DRWN	CHKD	REMARKS	DATE: AUGUST 2015

S. MURPHY A. DOMAZET	CDM.				
S. MURPHY	Smith				
J. BALSKUS					
L. SHERMAN	75 State Street, Suite 701 Boston, MA 02109				
AUGUST 2015	Tel: (617) 452-6000				

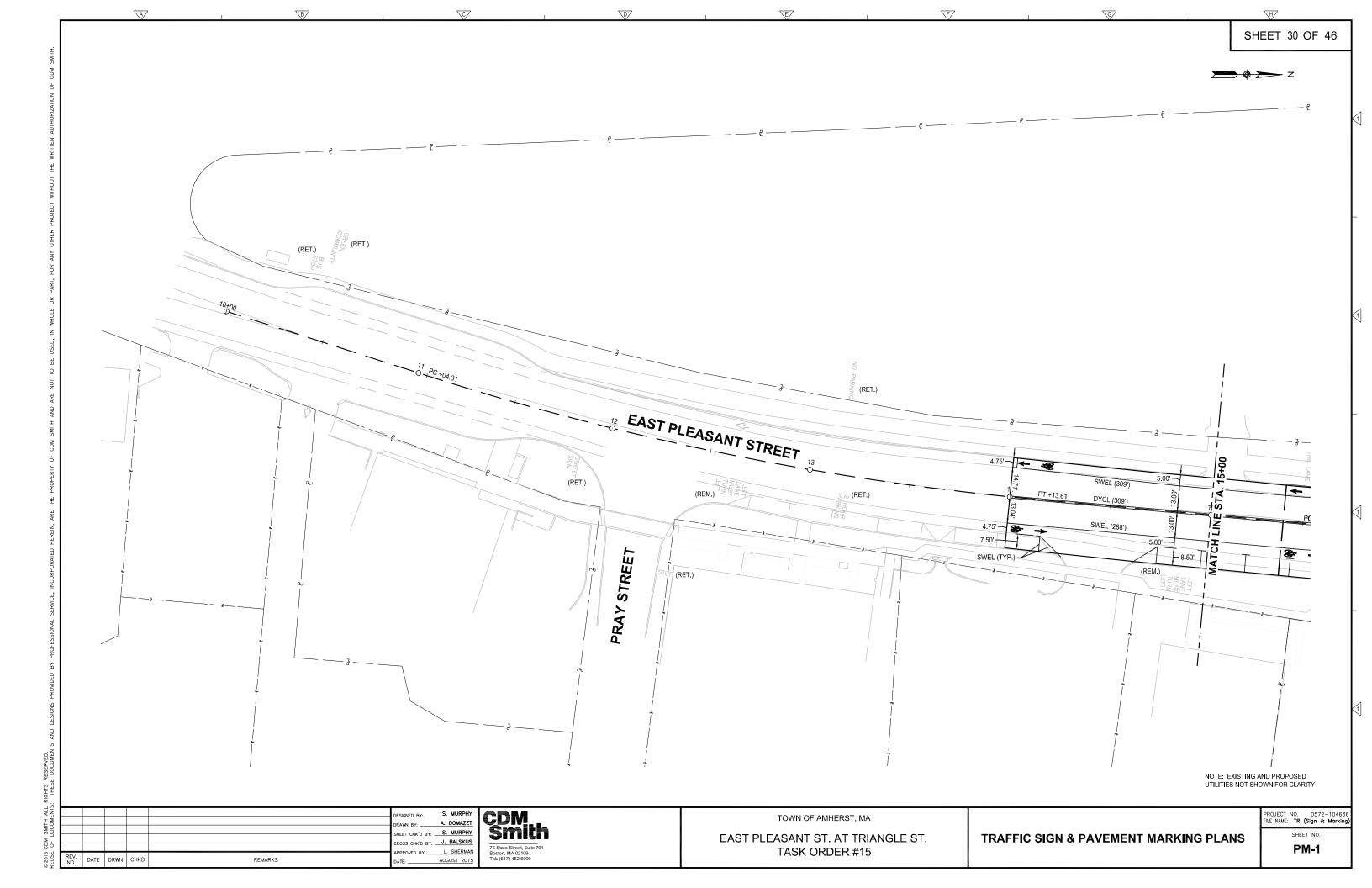
TOWN OF AMHERST, MA

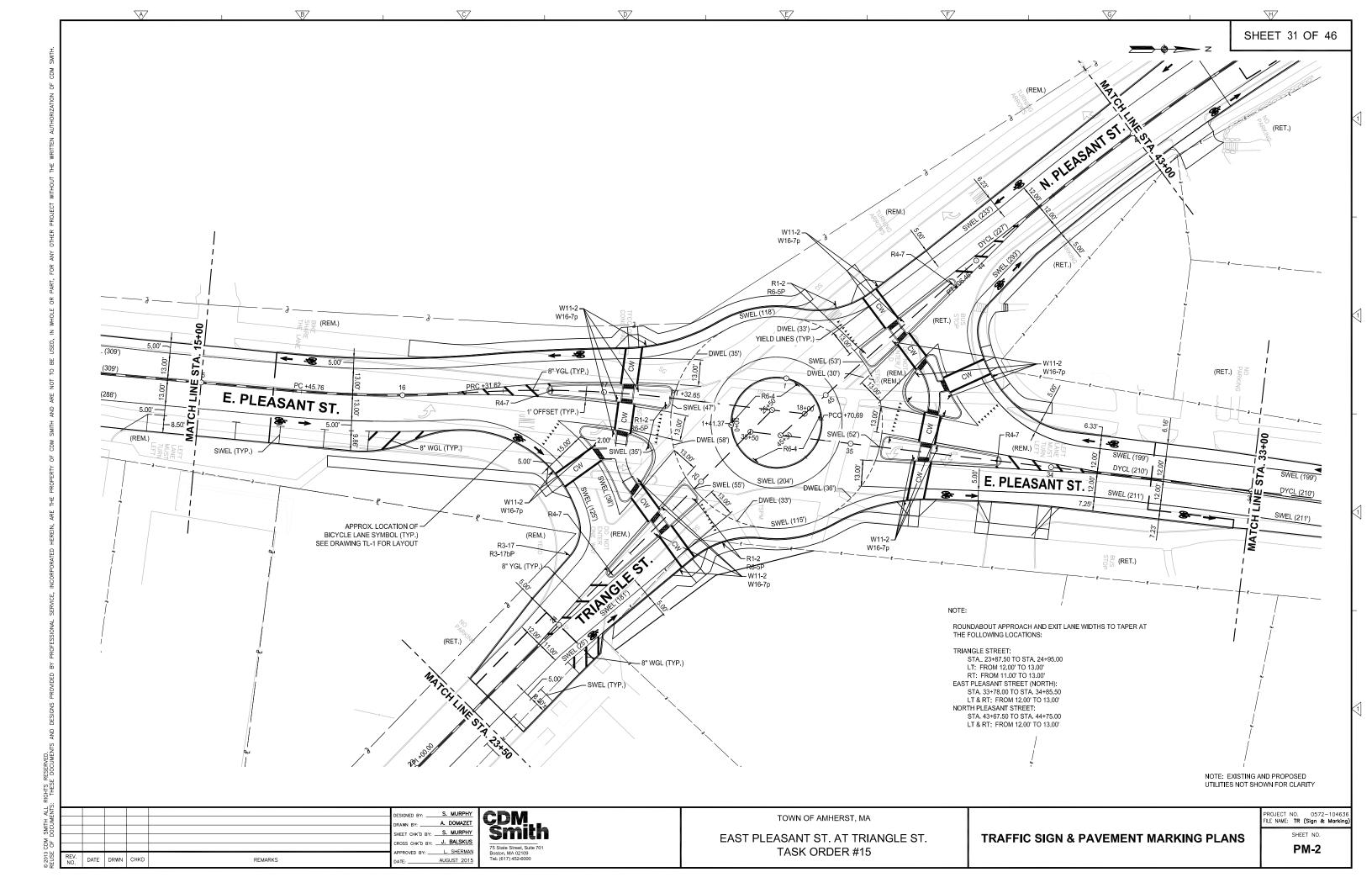
EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15

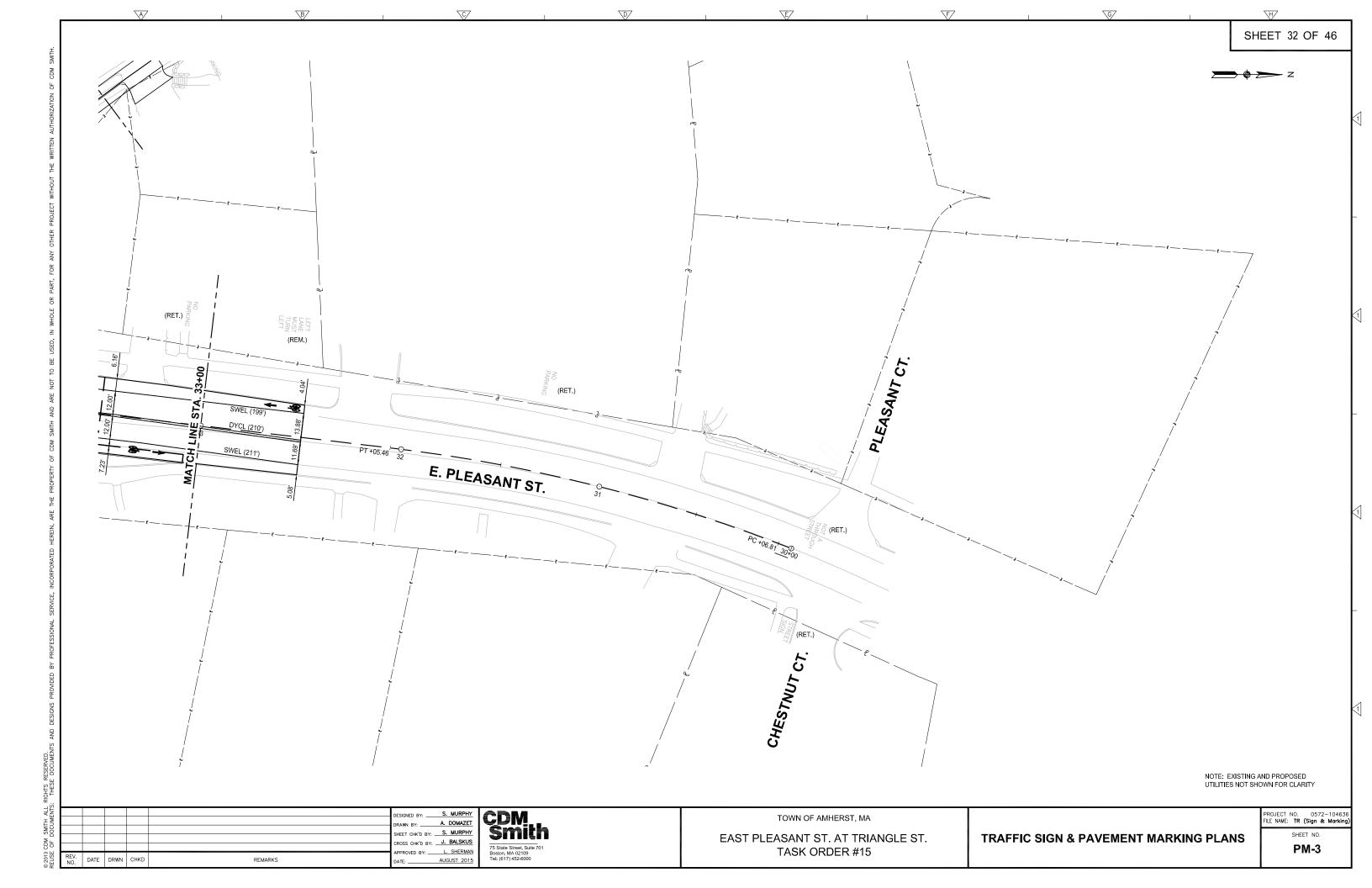
TRAFFIC LEGEND, ABBREVIATIONS & NOTES

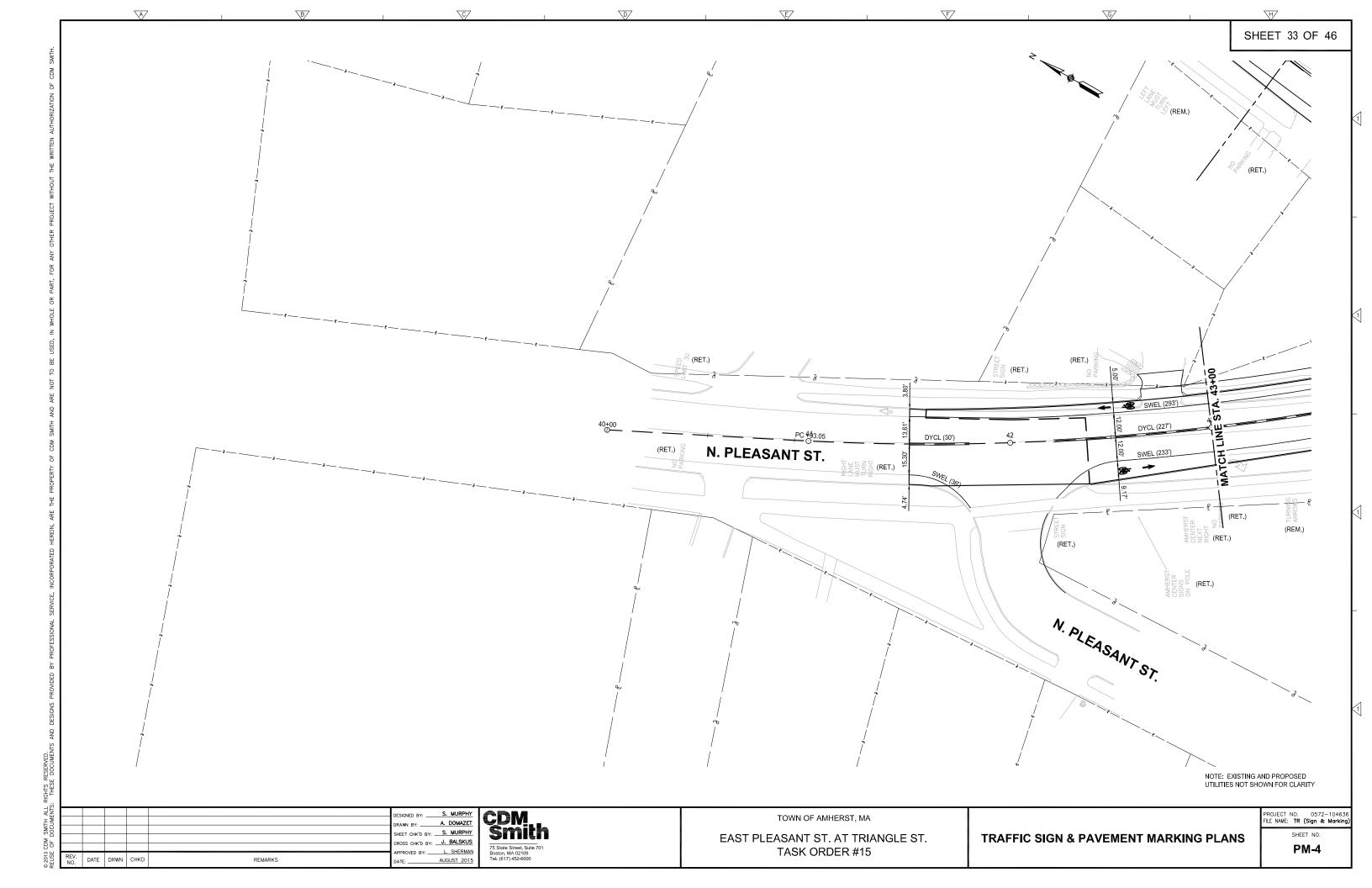
PROJECT NO. FILE NAME:	0572-104636 TR (Legend)
SHEET	NO.

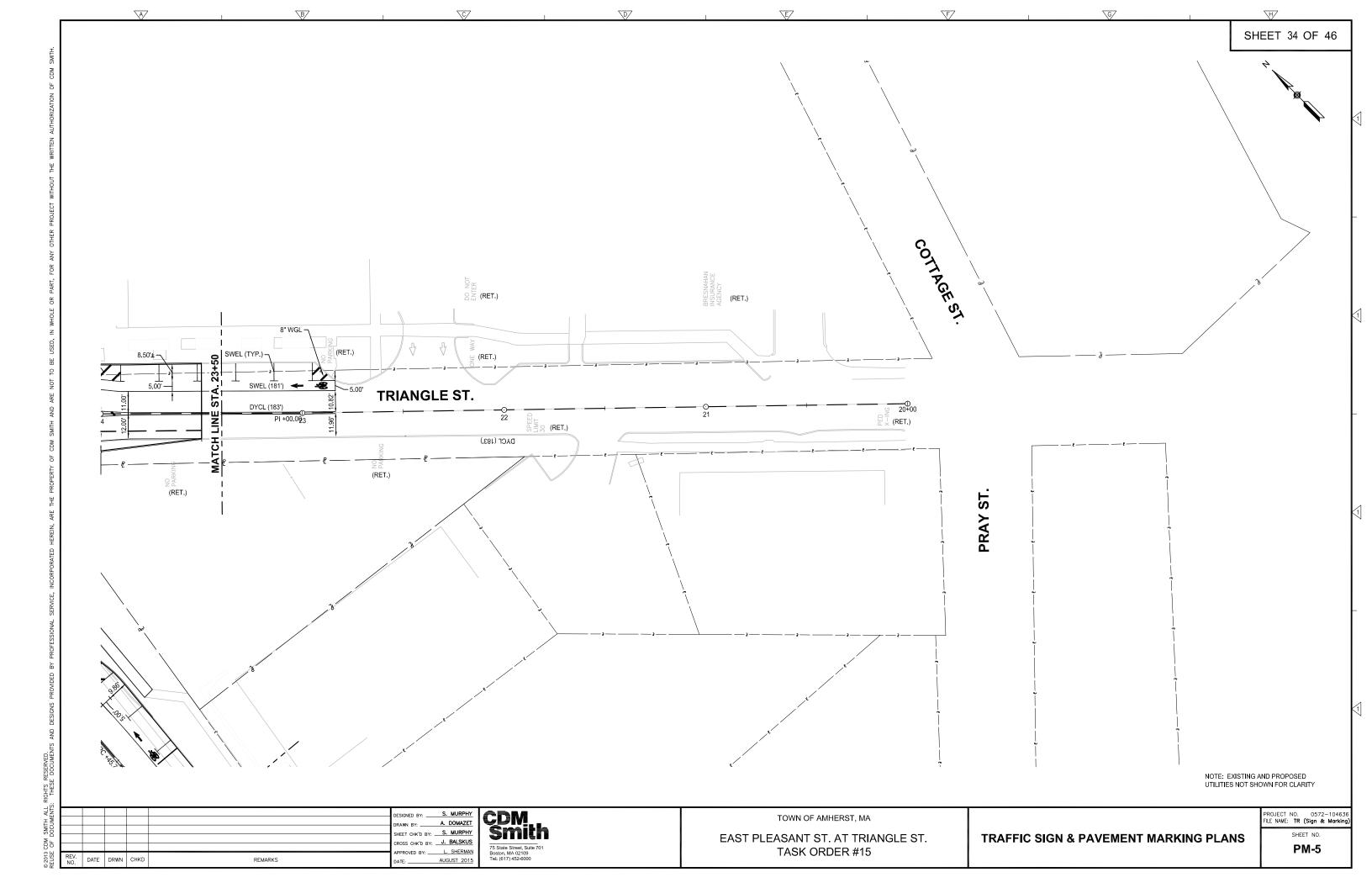
TL-1











IDENTIFICATION	SIZE OF	SIGN (IN)	01011 54.05	TEXT DIMENSIONS (IN)		NO. OF COLO		OR	POST SIZE	UNIT AREA	TOTAL AREA	
NUMBER	WIDTH HEIGHT	HEIGHT	SIGN FACE	LETTER HEIGHT	VERTICAL SPACING	REQUIRED	BACK- GROUND	LEGE	ND BORDER	& TYPE	(SF)	(SF)
R1-2	30	30	YIELD			8		Å		P-5	6.25	60.00
R3-17	24	18	BIKE LANE			1				P-5	3.00	3.00
R3-17bP	24	8	ENDS			1				MOUNT WITH R3-17	1.33	1.33
R4-7	24	30				4				P-5	5.00	20.00
R6-4	24	30			TCD IDARD	4		MUTO STAND	CD ARD	P-5	5.00	20.00
R6-5P	30	30				8				MOUNT WITH R1-2	6.25	50.00
W11-2	30	30				20				P-5	6.25	125.00
W16-7p (L)	24	12	K			10				MOUNT WITH W11-2	2.00	20.00
W16-7p (R)	24	12	*			10				MOUNT WITH W11-2	2.00	20.00

SCALE: N.T.S.

CDM Smith 75 Stale Street, Suite 701 Boston, MA 02109 Tel: (617) 452-6000

TOWN OF AMHERST, MA

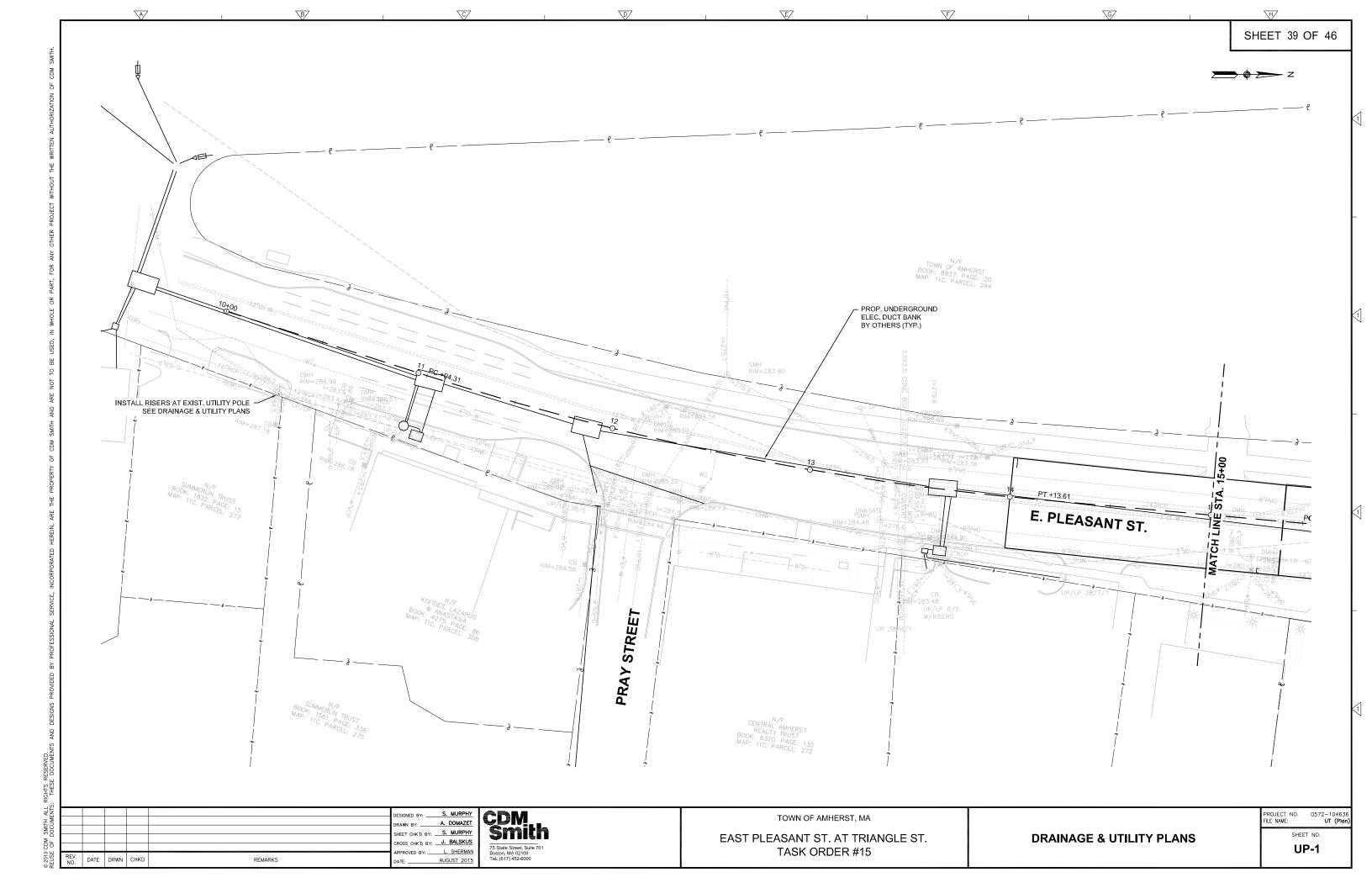
EAST PLEASANT ST. AT TRIANGLE ST.

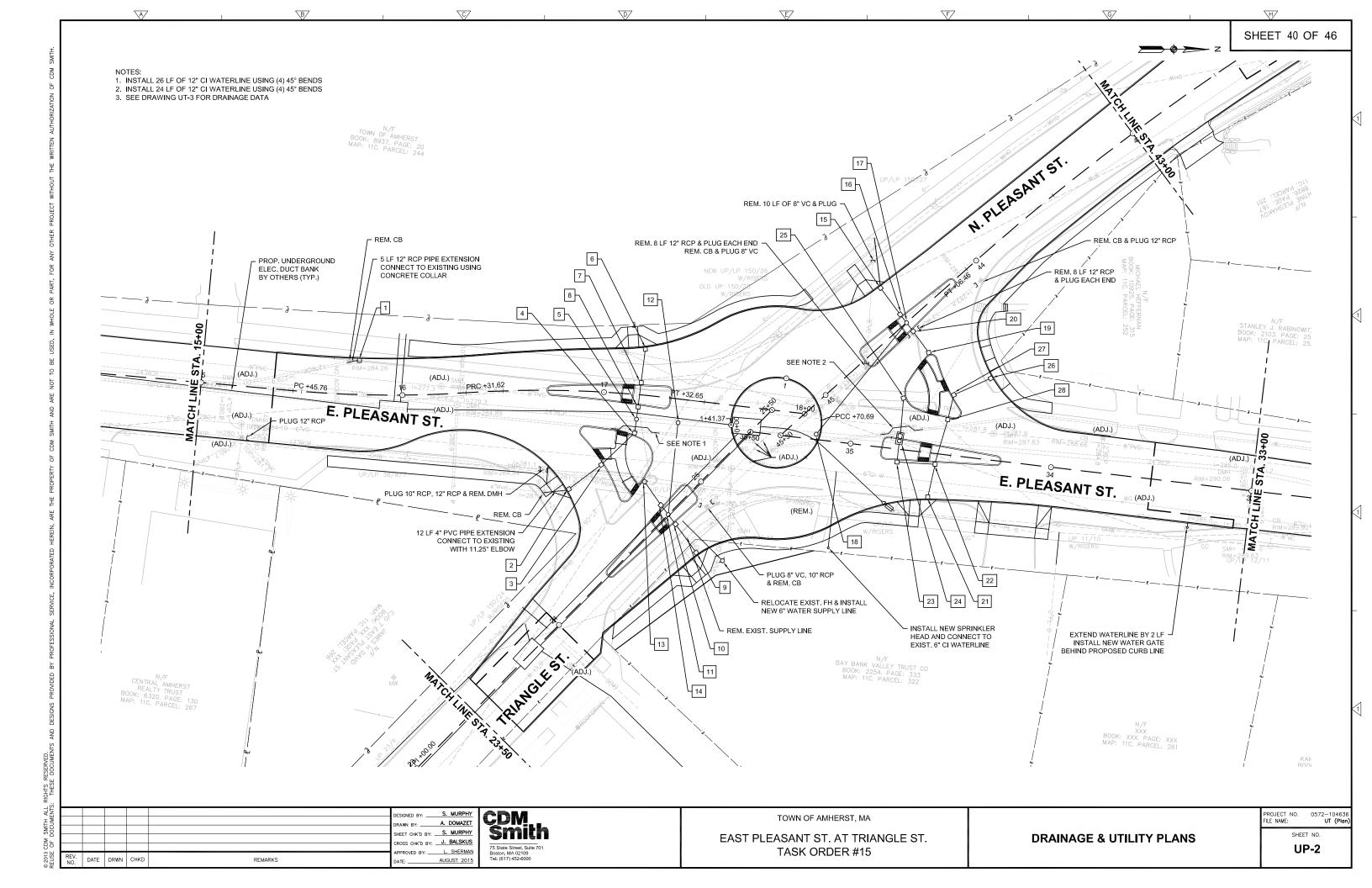
TASK ORDER #15

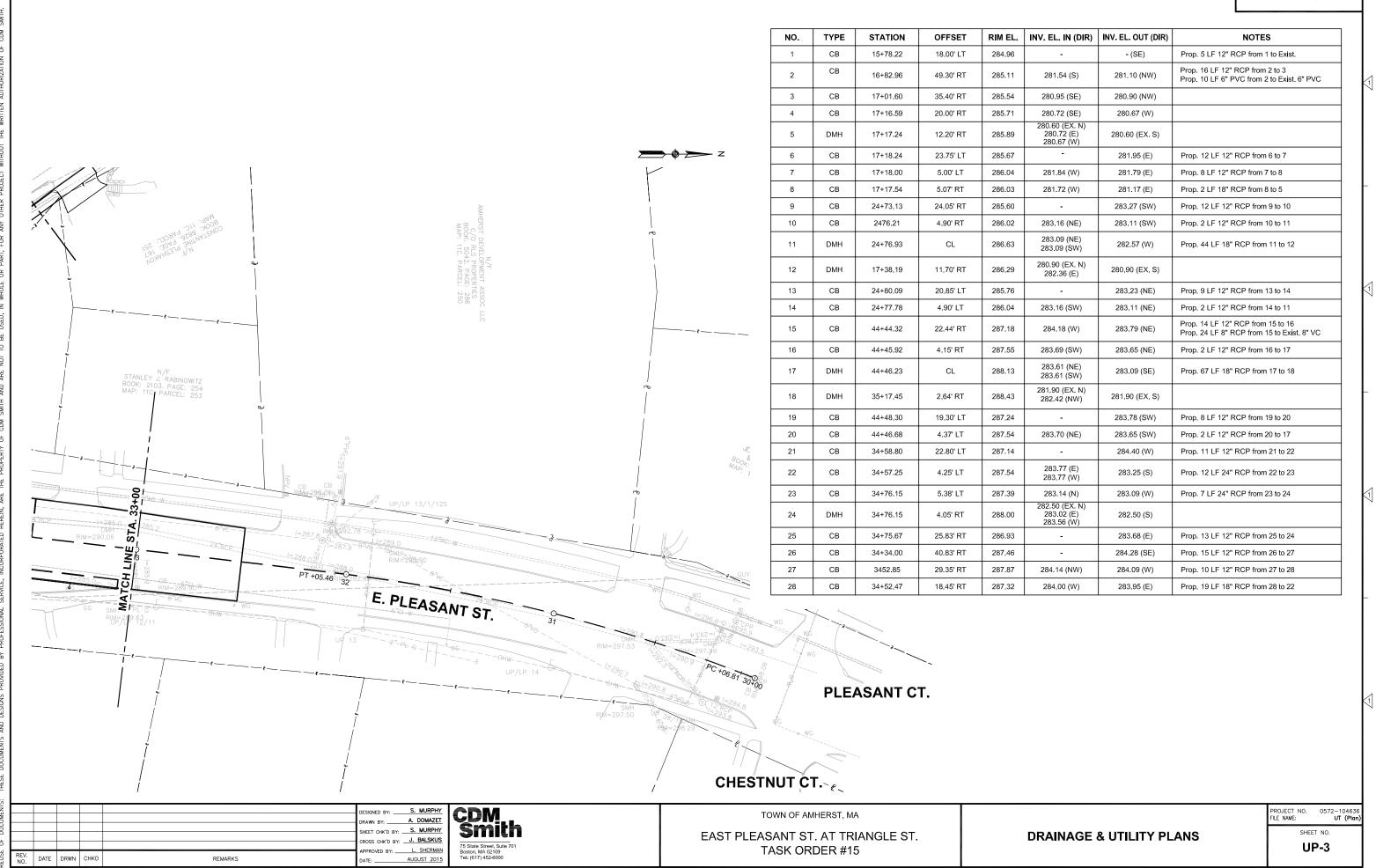
SIGN SUMMARY

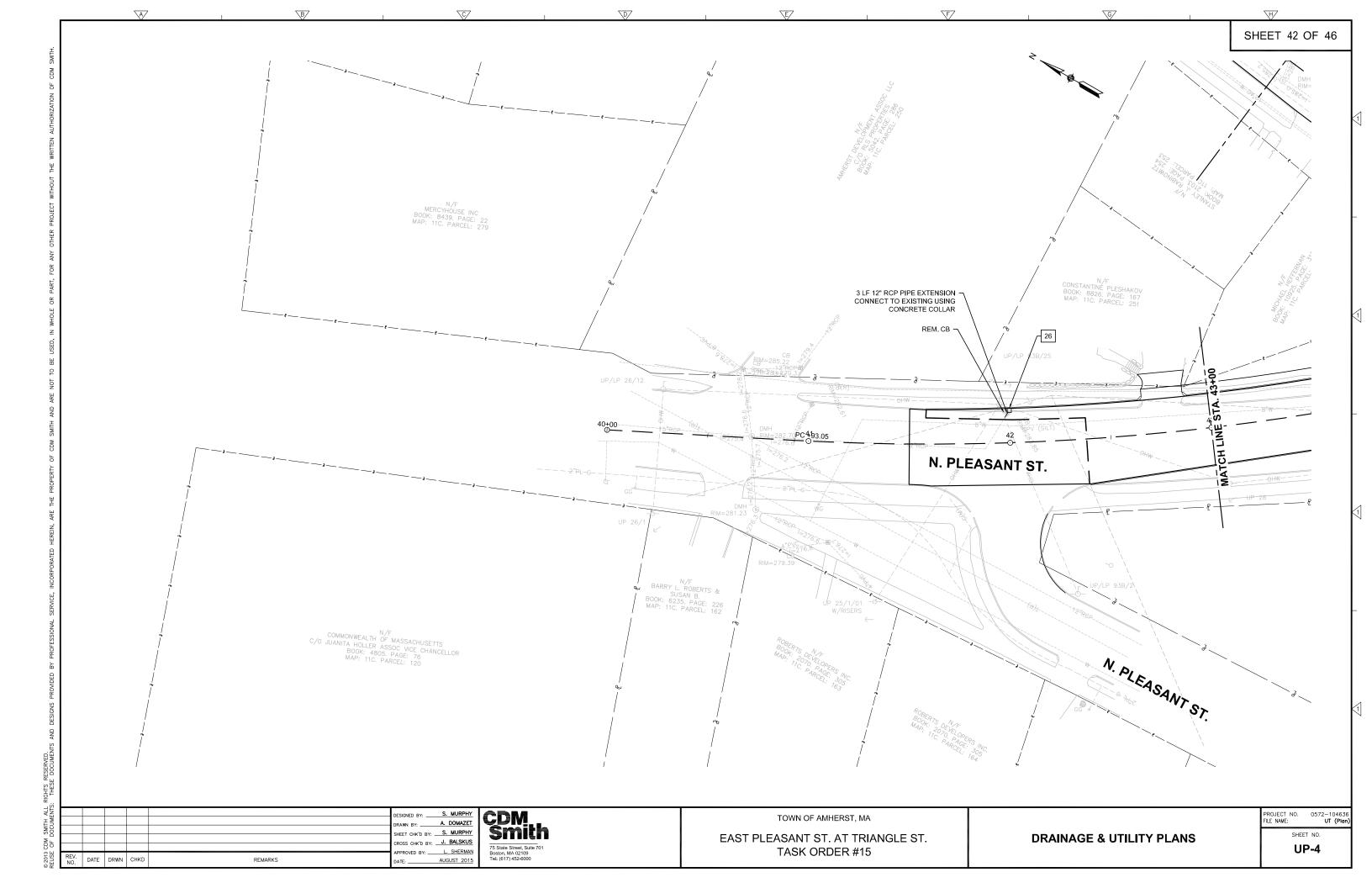
ROJECT NO. 0572-104636 ILE NAME: TR (Sign Summary)

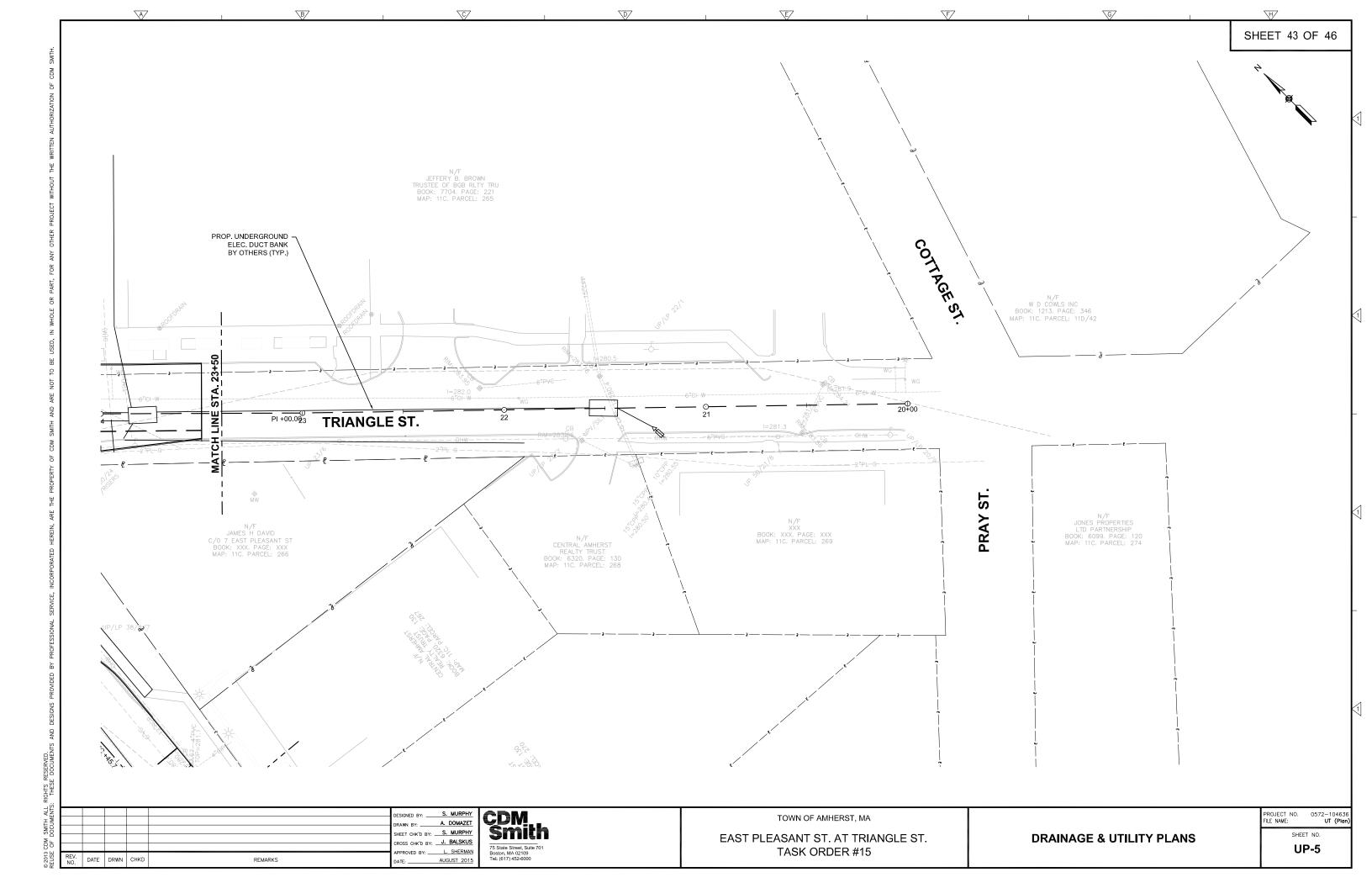
SHEET NO.

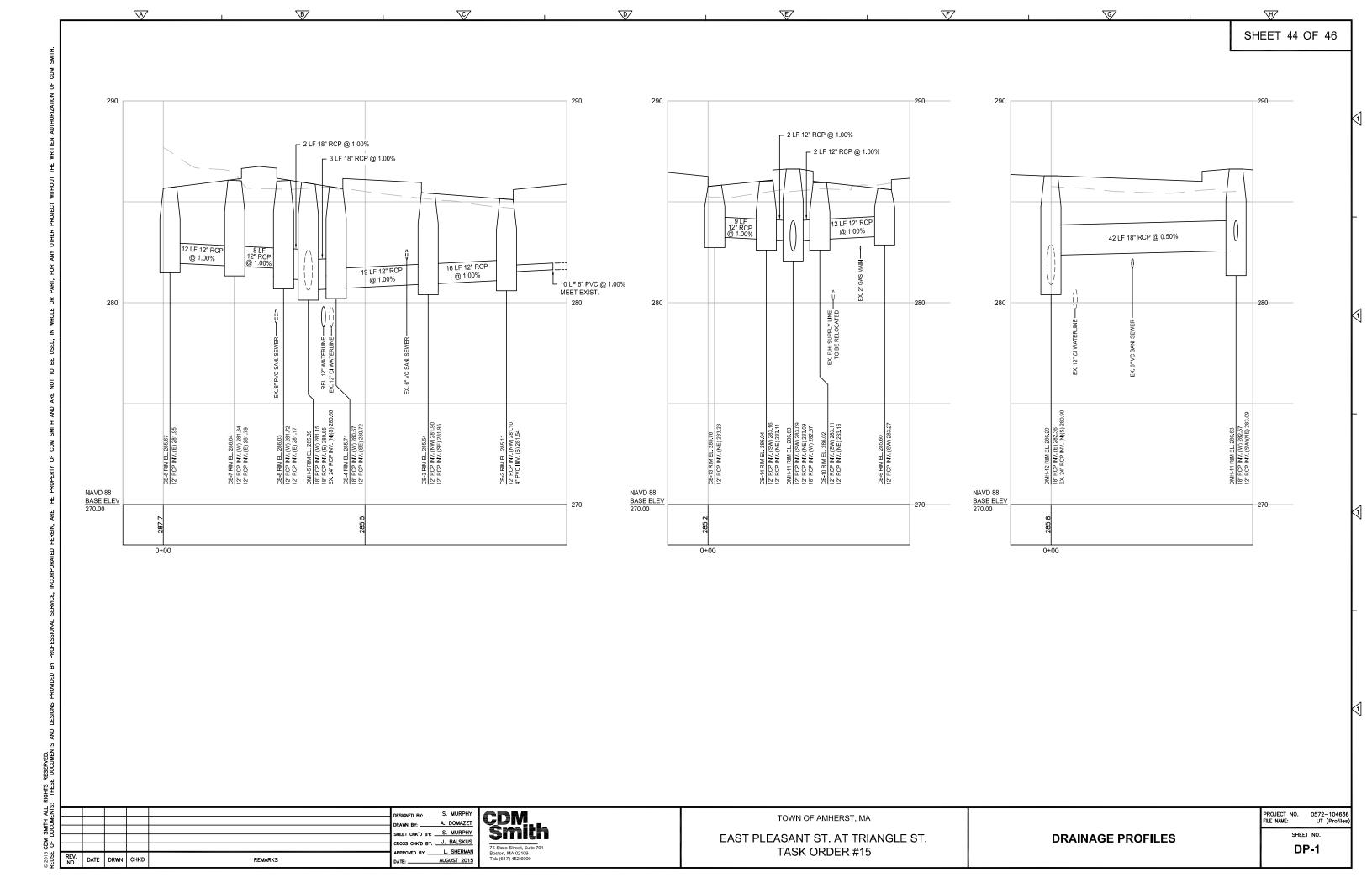


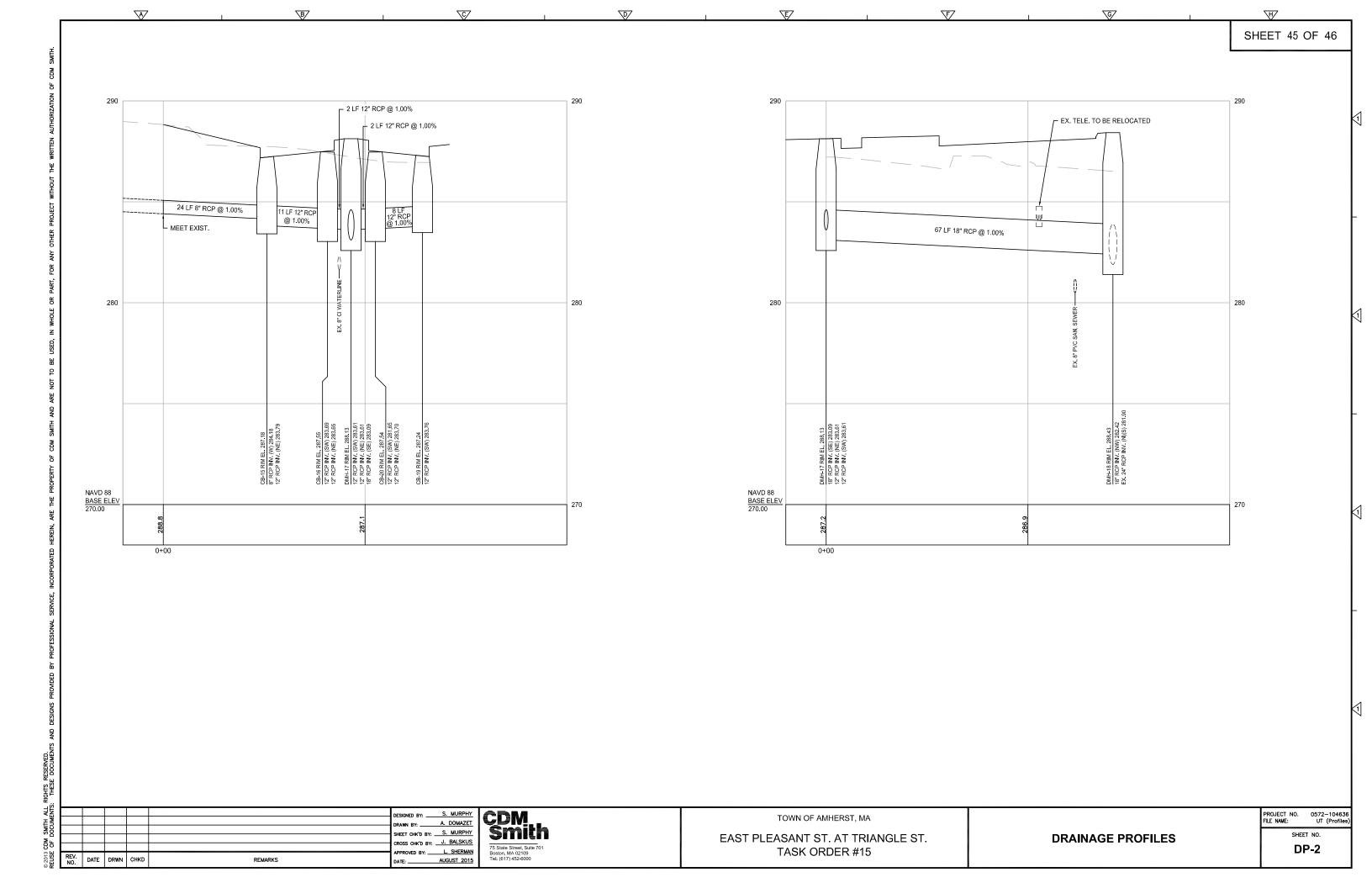




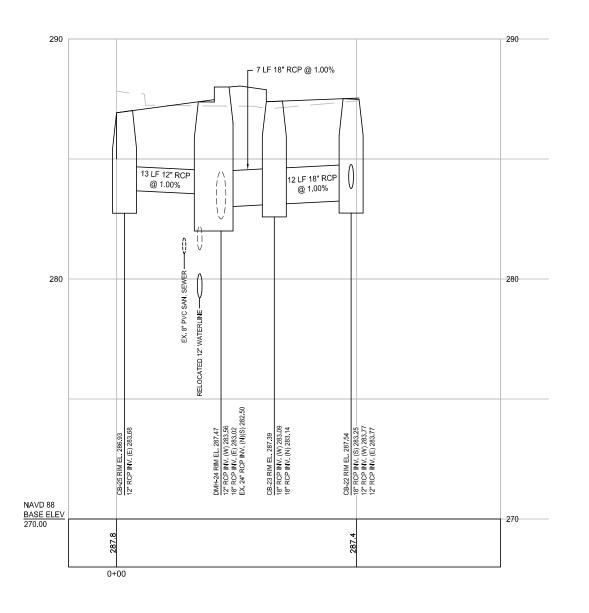


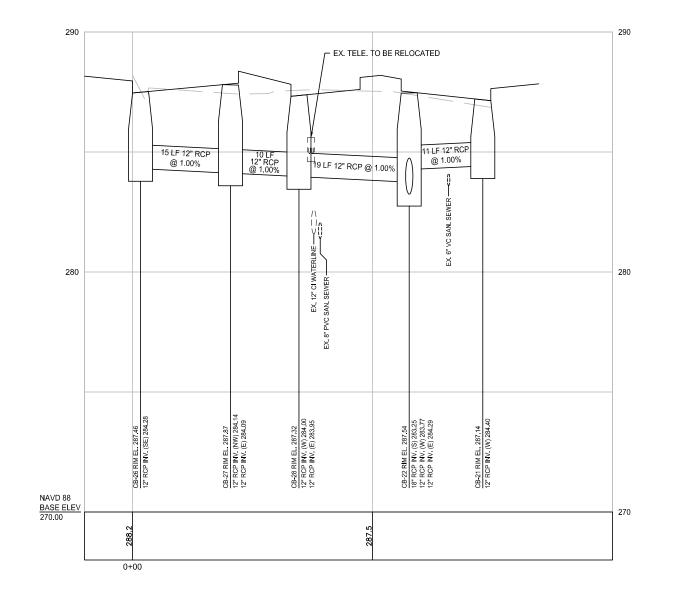












F

DRAWN BY:A						DESIGNED BY: S. MURPHY
SHEET CHK'D BY: S. MURPH' CROSS CHK'D BY: J. BALSKU: APPROVED BY: L. SHERMA						1 00111757
CROSS CHIC'D BY: L. SHERMA  REV DUTE						
REV. DATE DOWN DIVIN						G. 122.1 G. 111.2 G. 11
REV. DUTE DOWN OURD						
NO DATE DRWN CHRD REMARKS DATE: AUGUST 201	REV. NO.	DATE	DRWN	CHKD	REMARKS	74 1 110 125 5 11

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HY_	Smir
<u>us</u>	75.01 1.01 1.0 7.7
MAN	75 State Street, Suite 701
AIT-LET	Boston, MA 02109
)15 I	Tel: (617) 452-6000

TOWN OF AMHERST, MA

EAST PLEASANT ST. AT TRIANGLE ST. TASK ORDER #15 DRAINAGE PROFILES

JECT NO. 0572-104636 NAME: UT (Profiles)

DP-3